Today's Health

PUBLISHED BY THE American Medical Association

OCTOBER 1961 FOR THE AMERICAN FAMILY 35¢

Doesn't everybody know all Heinz Baby Foods have screw-on caps?

- Now Heinz—and Heinz alone—offers you the easy-opening convenience of screw-on caps on *all* Strained and Junior Foods, including Meats and High Meat Dinners.
- Ask your doctor about Heinz Baby Foods. They are outstanding in quality—famous for their fine flavor, color and texture!

HEINZ Baby Foods

...over 100 better-tasting varieties

Another New Margarine From Fleischmann's

First Unsalted Margarine Made from 100% Corn Oil Is Ideal for Restricted Diets!

- Ideal for sodium-restricted diets!
- Ideal for diets high in polyunsaturates!
- Contains almost one cup of liquid corn oil per pound!
- Fresh-Frozen to protect its sweet, delicate flavor!

Today, many Americans observe a wide variety of restricted diets. Among these are sodium-restricted diets and diets high in polyunsaturates. Now, to aid people on these restricted diets, Fleischmann's announces new Fleischmann's Unsalted (Sweet) Margarine.

No Salt Added!

This delicious new margarine has no salt added. It contains about 70 times less sodium than salted spreads. Yes, it contains less than 3 mgs. of sodium per ounce. That's why it's ideal for you if you're on a sodium-restricted diet.

High In Liquid Corn Oil!

What's more, Fleischmann's Unsalted Margarine is made from 100% corn oil, with almost one cup of liquid corn oil in every pound. It also contains another cup of corn oil, partially hydrogenated to help protect Fleischmann's sweet, delicate flavor.

Fleischmann's Unsalted Margarine gives you high linoleic content, high polyunsaturates. That's why this new margarine is ideal for you if you're on a diet high in polyunsaturates.

If you're on a sodium-restricted diet or diet high in polyunsaturates, or if you simply prefer the sweet flavor of an unsalted spread, this is the margarine for you. Get new Fleischmann's Unsalted (Sweet) Margarine in the green foil package in your grocer's frozen food case.

Fleischmann's also makes a lightly salted margarine, made from 100% corn oil, partially hydrogenated. It's in the golden foil package in the refrigerated case. Both Fleischmann's Margarines are sold on the West Coast in the familiar cube form.

Distribution presently limited in some areas.

By the Makers of Fleischmann's Yeast

BE SURE your margarine is made from 100% corn oil for delicious flavor. Read the list of ingredients on the package front.

Give your family the dietary benefits of...

Fleischmann's UNSALTED (SWEET) MARGARINE

KANTWET firmness comes from using fine materials and exacting craftsmanship in manufacture. Here's proof. Kantwet baby mattresses have been COMMENDED by Parents' Magazine, USE-TESTED by McCall's and PREFERRED by thoughtful mothers for over a generation.

COMMENDED BY PARENTS' MAGAZINE

USE-TESTED BY McCALL'S

nationally known...
KANTWET
BABY PRODUCTS
ROSE-DERRY CO., NEWTON 95, MASS.

The name mothers know and trust

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COMING NEXT MONTH—

Carbon Monoxide: The Unseen Killer

Carbon monoxide, long recognized as one of the deadliest of gases, has felled seamen in submarines, menaced aircraft in the sky, and wiped out families in motels. Motorists who warm up their cars with garage doors closed expose themselves to this stealthy killer. Many highway accidents have been caused by this odorless, tasteless, and non-irritating gas.

"Because the littlest things upset my nerves, my doctor started me on Postum."

"Spilled milk is annoying. But when it made me yell at the kids, I decided I was too nervous.

"I told my doctor I also wasn't sleeping well. Nothing wrong, the doctor said after the examination. But perhaps I'd been drinking lots of coffee? Many people can't take the caffein in coffee. Try Postum, he said. It's 100% caffein-free—can't make you nervous or keep you awake.

"You know, it's true! Since I started drinking Postum I do feel calmer, and sleep so much better! Can't say I enjoy having milk spilled even now—but trifles don't really upset me any more!"

Postum is 100% coffee-free

Another fine product of General Foods

Today's Health

PUBLISHED BY THE American Medical Association

FOR THE AMERICAN FAMILY

October 1961

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TODAY'S HEALTH articles are indexed in Reader's Guide to Periodical Literature.

The American Medical Association does not necessarily endorse all of the material appearing in this publication.

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Cover: Tak Murakami

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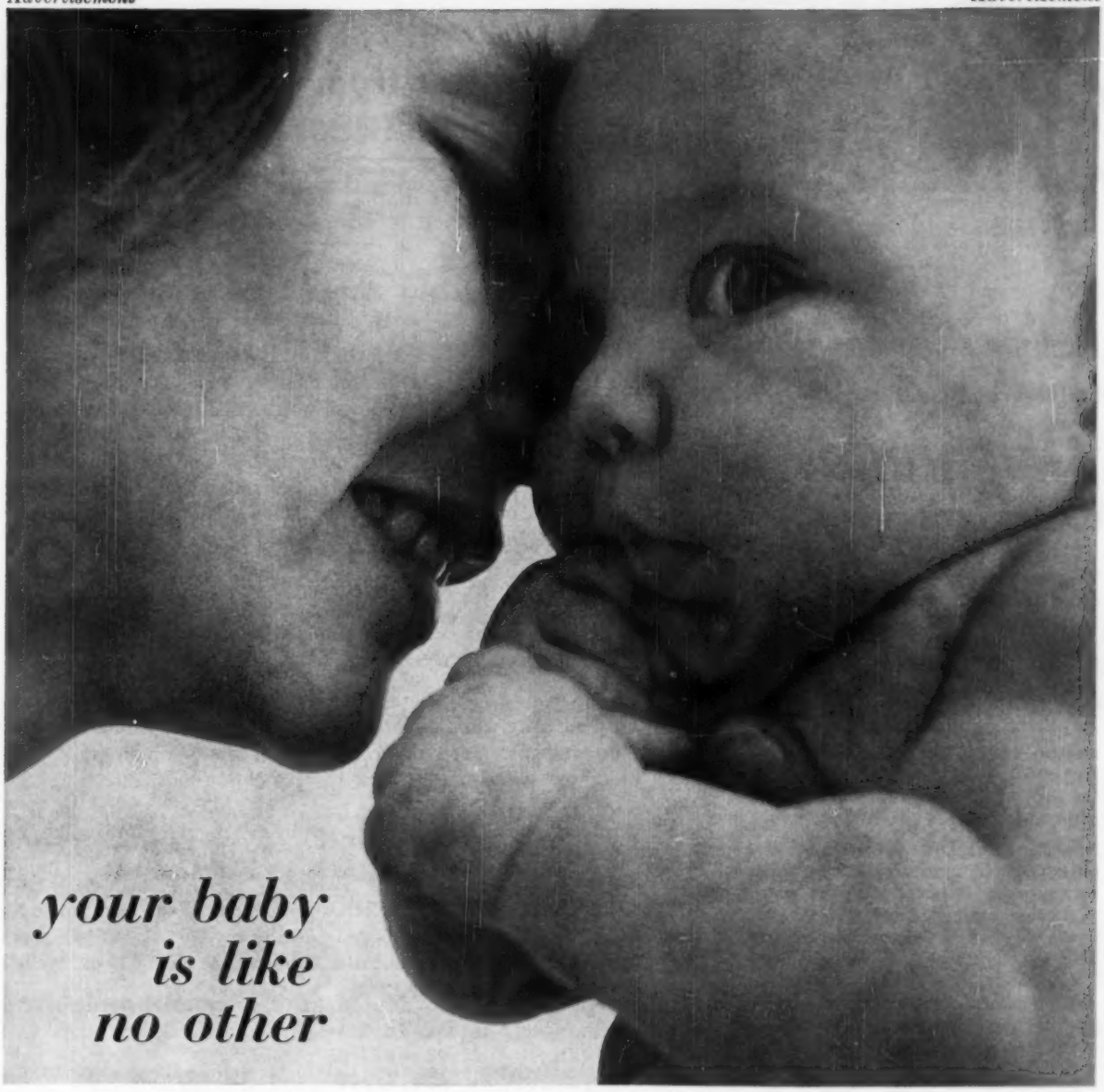
American Medical Association

TODAY'S HEALTH is published monthly by the American Medical Association. Yearly subscriptions: U.S., U.S. Possessions, and Canada, $3; other foreign countries, $5. Single copy, 35 cents. Volume 39. Number 10. Printed in U.S.A.

Second-class postage paid at Chicago, Illinois, and additional mailing office.

Address all communications to Today's Health, 535 North Dearborn St., Chicago 10, Ill.



Even though parents know their baby best and have a natural capacity for taking care of him, your doctor has the training and experience that qualifies him to take responsibility for matters affecting the baby's nutrition and health.

Your baby is truly an individual, and he has individual needs—particularly in matters affecting his health and well-being. When it comes to the baby's nutrition, the doctor is, of course, well qualified to choose the foods which the baby should eat during early infancy, because the doctor best knows the baby's physical make-up, limitations and requirements. He also knows which foods, and in what combinations and quantities, are most suited for the baby's health and growth.

Sometimes parents decide for themselves what foods the baby should eat, without consulting their physician. Their belief in what is best for their baby usually comes from advertising for such products. This can result in difficulties (not always immediately apparent), and it is then only when difficulties occur that the physician is called in.

Surely this is a risk no parent would knowingly take. The time to consult the physician is before selection of your baby's foods. Then leave the choice of food and time of feeding to him. That is why many companies who manufacture the baby's first foods advertise only to the physician. They leave to him the decision about a baby's feeding, and advise parents to do the same.

This advertisement is published in the interest of the welfare of your children by Ross Laboratories, Columbus, Ohio.

Baby's skin care begins with

Diaparene®
anti-bacterial
BABY PRODUCTS

To keep your baby safe from diaper rash and other skin irritations, protect him from the action of harmful bacteria. For his daily bath, use Diaparene Tod'l®, the soapless, sudsing, anti-bacterial skin cleanser made especially for babies. Tod'l washes away the most common forms of rash-causing bacteria—faster and better than soap—leaves an anti-bacterial "shield" that protects against the growth of new bacteria for hours after use.

Diaparene Anti-bacterial Baby Powder, with its purified cornstarch base, soaks up irritating moisture, provides added protection against diaper rash, prickly heat, and chafing. For babies with dry skin, use Diaparene Anti-bacterial Baby Lotion. And to check irritating ammonia and odor in baby's diapers, use antiseptic Diaparene Diaper Rinse or choose a Diaparene franchised diaper service.

Recommended by Doctors

Sold at all drugstores

a letter from STAN DELAPLANE

NOTHING would do the other day but I must go down and buy a suit. This is the trouble with this dressed-up modern world. You wear a suit for four or five years, just long enough to get used to it, and suddenly everybody is talking about how you should get a new one.

All the ads are for the Ivy look. And anybody who wears drapes is a square. Or you must wear leather trimming on your pockets in order to succeed. Or you must have something called "The Executive Look" by locking yourself into a pinchback.

The fact that these things change constantly does not bother the clothing people at all. Executives look one way one year. Another way another. The Ivy League can hardly change fast enough.

☆ ☆ ☆

What I dislike mainly about clothes buying are those three-way mirrors.

I see myself daily while shaving and have become accustomed to my face, as the song goes. But I am accustomed to it in one position. When I look at myself with all that back view, it is the most discouraging thing in the world.

I am sure my neck does not stick out of my regular clothes like it does out of a new suit.

"Is it supposed to look like that?" I asked.

"Fits you perfectly," said the clothes man, hitching the front up and shaking the shoulders so they dropped down to my elbows. "This is the Easy Look. As opposed to the Executive Drape or the Nubby Look. We'll have to let those trousers out a little."

☆ ☆ ☆

I am a simple clothing buyer. But nothing is simple these days, have you noticed?

"I wear a size 40," I said firmly. "I want a brown suit. One shoulder must be lifted. So when you call the tailor in for alterations, let us not make a point of this. As though you had discovered a new continent. Or I had walked in with a pointed head.

"It is a normal and slight drop due to a minor curvature of the spine. Patient suffers no discomfort, and is able to work."

"Try this on for size," he said.

"It is blue. I want brown."

"Slip into it for size, anyway," he said coaxingly.

No matter what you ask for, they always put you in something different. For size. It must be a rule in the business.

☆ ☆ ☆

I got the brown suit and took a shuddering glance in the three-way mirror.

"I'll take it."

The salesman removed it firmly from my shoulders. "We also have this number with a slightly heavier weave." (*Continued on page 69*)

Today's Health News

by ALTON L. BLAKESLEE

Patterns of Disease: Diseases follow patterns partly according to social and physical environment, Dr. Rene J. Dubos of the Rockefeller Institute points out. "Whereas water pollution used to be responsible for much disease among our ancestors, air pollution is today taking its place." Food poisoning used to take a heavier toll, but now it's realized that new synthetic products can produce a variety of toxic and allergic effects. And while laboring men once suffered from physical exhaustion, their burden has been lightened by laborsaving devices, and boredom is replacing fatigue.

Child Victims: Far from being rare, peptic ulcers now are "a common disease of children and should be suspected in any young child with unexplained recurring abdominal pain," declares Dr. Jerome Weiss of New York City. He reports a noticeable increase in childhood ulcers between ages four and 12 in the last four years among boys and girls at every social level among city and suburban dwellers. Emotional problems and unpleasant situations may be significant in development of an ulcer, he adds.

Lighting Up Again: Some British cigarette smokers habitually put out an unfinished cigarette, save it, and relight it later. In a study of smokers, three British physicians found about twice as many cases of lung tumors among the relighters as among one-time smokers of a pack to one and a half packs of cigarettes daily. They conclude that if relighting is a factor in lung cancer, it might go part way to explain the much greater incidence of the disease in Britain than the United States where cigarettes are cheaper.

Whiplash Hazards: Whiplash injuries can produce brain disturbances quite comparable to direct blows on the head, report Drs. Fernando Torres and Sidney K. Shapiro of University of Minnesota Medical School. Whiplash injuries come from sudden jerking of the head backward and forward or from side to side, and frequently occur in automobile accidents. Whiplash victims suffered from headaches, nervousness, insomnia, dizziness, difficulty in concentrating, and other aftereffects much like persons suffering direct head injuries, they found.

Infant Eczema and Milk: Cow's milk is generally blamed as a cause of infant eczema, but Dr. Stanley S. Freedman, of Providence, Rhode Island, comes to its defense. In a study of 50 infants suffering from severe eczema, he found that "in no instance was cow's milk the sole cause of eczema." Milk seemed to have very little influence upon the skin rash disease, which frequently comes and goes spontaneously, he said.

Recurrent Mumps: If a person has had mumps on one side only, is he susceptible to an attack on the other side? Well, says a consultant in the AMA Journal, "second attacks of mumps may occasionally occur, but most of these depend on erroneous diagnosis either in the first or second attack, and recurrence 'on the other side' is probably pure folk lore."

(over)

"New" Diseases: If there appear to be new diseases these days, it is only because in the past they were subordinated to older ones, say Drs. Ernest H. Watson and George H. Lowrey of the University of Michigan Medical Center. Today's virus diseases went largely unrecognized in times past when smallpox, plague, cholera, and syphilis were rampant. But they think it unlikely our Stone Age ancestors ever had bouts with common cold or flu bugs. Those people were hunters and gatherers, and didn't come into contact enough to keep the diseases going. It took civilization and crowding to give germs and viruses a better breeding ground.

Culprit Identified: Bacteria have been identified as a cause of athlete's foot affecting the toes, report Drs. Imrich Sarkany, David Taplin, and Harvey Blank of Miami, Florida. Fungi usually have been blamed as the cause, but the researchers isolated rod-shaped bacteria from affected skin, and find the disease often responds to treatment with certain antibiotics.

Age and Auto Accidents: Older persons are being unfairly accused of being more prone to auto accidents than younger drivers, report Drs. Donald P. Kent and Geraldine B. Novotny of the Institute of Gerontology, University of Connecticut. They base this on an analysis of accident rate figures and other studies, and find the accident index for drivers 60 to 69 is "well below the national safety average, while that for those above 70 equals the average," and "drivers up to 30 have a poorer record than those over 75."

Aged Skin: Changes in the skin usually attributed to aging are apparently due mainly to cumulative effects of sunlight, a Houston, Texas, dermatologist concludes after microscopic studies of skin from exposed and unexposed areas of the body. None of the skin from unexposed parts of the body showed any degenerative changes in young or old persons, or white or Negro persons. Too much sun can damage the skin, giving it a dry, coarse, leathery appearance, laxity with wrinkling, and changes in color, said Dr. John M. Knox.

Soviet Alcoholics: The U.S.S.R. has as much alcoholism as any other country, a Soviet physician told Dr. Morris E. Chafetz of Boston, who was visiting Russia. Doctor Chafetz found "the Soviet attitude toward the alcoholic patient tends to be moralistic and punitive, as in the United States," but he was quite impressed with the efforts in Czechoslovakia to help and to cure the alcoholic.

Old Man: New evidence puts the dawn of human life on earth at 1.75 million years ago, a big backward jump from the usual estimate of only 600,000 years. The evidence comes from radioactive dating of rocks in which was found the skull of Zinjanthropus (nutcracker) man in east Africa, says the National Geographic Society. And man may date back even further than that. Dr. L. S. B. Leakey, British anthropologist who discovered Zinjanthropus' skull, has also found the bones of a man and a child which appear older than nutcracker man's bones.

These news items, gathered for Today's Health by a veteran science reporter from sources where serious scientific work is being carried on, are reported as interesting new developments, and should be read as such. Obviously no "endorsement" by the American Medical Association is implied by the publication of news items. —Editor

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Don't get all wrapped up in caring for minor cuts and abrasions. Just sprinkle on B·F·I. Soothing, medicated B·F·I clings to your skin, forming a barely visible protective coat that helps healing and inhibits infection.

Keep a can of B·F·I handy for fast relief of the discomfort of scratches, cuts, chafing, minor abrasions, rashes, bites, athlete's foot, and itching, burning feet.

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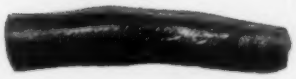

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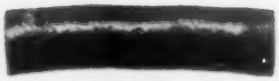


BLUE LAKES

Blue Lakes grow best in Oregon and Washington. This Blue Lake variety of canning green bean grows on poles, or strings, and was developed in these two states. Here cool nights and oceans of fresh water give Blue Lake pole beans their natural succulence, unmatched by any variety of green bean grown anywhere else.

You can tell Blue Lakes by their clean, meaty flavor, their round, straight pods and tiny white seeds. Nearly all the better restaurants serve these Blue Lakes because they hold flavor and shape better than any other variety.

Blue Lakes are sold under many brand names. Look for the varietal description "Blue Lake" on the label of your next can of green beans.

NOTE TO PHYSICIAN:
Canned Blue Lakes are low in calories—22 cal/100 gm and contain 352.7 mgs. sodium per 100 gms.

BLUE LAKE VARIETY GREEN BEANS ™

FROM OREGON AND WASHINGTON
(Where Blue Lakes Grow Best)

that's a good

QUESTION

Edited by WILLIAM BOLTON, M.D.

Depression and Nutrition

Some months ago, you suggested that poor nutrition might lead to mental depression. Don't you think that more often it is the other way around?

Without question, depression is much more commonly a cause of poor nutrition than a result. In fact, deterioration of the nutritional state may be the first indication that some mental abnormality is developing.

The discussion mentioned was not concerned with specific diagnosis of depression, but dealt rather with the possibility that a chronically undernourished person would tend to lack interest and energy, and would have a discouraged attitude toward life in general. This sort of indifference is often cited as a characteristic of underprivileged people. It is, of course, different from the type of disorder diagnosed as mental depression.

Anyone who shows evidence of undernutrition should have a thorough physical study by a physician, since self-treatment of this is just as unwise as is self-treatment of obesity. Such a study would reveal any undiscovered mental depression.

Low Blood Sugar

When low blood sugar is present, which is indicated, protein or sugar? How about graham crackers and jam?

Low blood sugar is due basically to excess amounts of insulin in the blood. Intake of sugar products, usually identified by the general term carbohydrates, stimulates activity of the special cells in the pancreas that make insulin. Therefore, people with low blood sugar usually are advised not to take excessive amounts of carbohydrate in the diet.

However, this cannot be handled casually, and the only sensible procedure is to have one's physician give exact directions. Also, extensive study is indicated to determine why excessive insulin is being produced. Sometimes this is due to a tumor in the pancreas. If a tumor is identified and removed, the problem usually is solved.

Graham crackers and jam are almost entirely carbohydrate products, so probably should be taken cautiously.

"Keeping In" Measles

Is it safe to "keep in" measles by giving gamma globulin after a person has been exposed?

In earlier times, there was a widespread belief that eruptive diseases such as measles, chicken pox, and scarlet fever often could be "brought out" by giving the patient a hot bath when illness developed after known exposure to infection. This was considered a wise and, in fact, lifesaving procedure, because it was believed dangerous for the infection to be "kept in."

Actually, the warm bath had little or nothing to do with appearance of the eruption, the effect being only coincidental, and there would be no chance of such conditions progressing without their usual skin manifestations.

When gamma globulin is given following exposure to infection and before the disease begins, it does not "keep in" the disease but simply prevents actual infection from occurring. This is due to the fact gamma globulin contains immune substances that neutralize the infectious agents of these diseases.

Salty Lips

What would cause salty lips?

There is a certain amount of salt in both sweat and saliva. It is possible that the saltiness you notice is

due to drying of saliva on your lips, with the result that salt particles crystallize out. When a person breathes through his mouth, dried encrustations of saliva often will be noted. Try to observe whether you tend to breathe through your mouth excessively. It may require some concentration to correct this habit.

Sex of Skeleton

With only a skeleton, is it possible to tell whether it was male or female?

This usually can be done without difficulty. The male skeleton is broader at the shoulders than at the hips, the reverse being the case with females. The female pelvis is considerably broader in all diameters. In the female, bones of the arms and legs are lighter and smaller, and the fingernails are more delicate. In the male, these bones are not only larger and heavier, but also they have larger and rougher prominences where muscles attach, because muscles usually are bigger in males.

The skull of a female is slightly smaller than that of a male, as is the breastbone, or sternum. In the female, the sacrum, the large bone at the bottom of the spine, is wide and short. It is narrow and long in the male. Males are much more likely to have had injuries resulting in fractures, and the presence of one or more of these in the skeleton would be additional presumptive evidence of sex.

Nerve Disorders

What is the difference between neuritis and neuralgia?

The "itis" in neuritis means inflammation of a nerve. When this is present, there is evidence of some interference with normal function of the nerve involved. This may be expressed by impairment or loss of motor function (paralysis) which may affect either voluntary or reflex action. It may be expressed also by decreased sensory function, such as touch sensation (anesthesia) or interference with hearing or vision.

Neuralgia means nerve pain, which may or may not be present in neuritis. In neuralgia as such, there is never any evidence of loss of normal nerve function. In many cases, both neuritis and neuralgia may be present. Extensive study by a physician may be required to determine exactly what is wrong. END

TO MAKE FOR HALLOWEEN

A suggestion we hope proves interesting and fun

New cutter for making Cooky Cats this exact size, with moon cutter and recipes: 25¢. Address, below.

Halloween Cooky Cat

Youngsters (adults too) are delighted with this cooky. Easy to make with Cooky Cat Cooky Cutter. Such fun to do and fun to eat. Only 25¢ postpaid. Crescent moon cutter included plus grand-tasting, easy recipes for making. Address given below.

Unlike the ordinary and usual kind of Halloween treats or refreshments, here is something really different and new with which to surprise and to delight everyone.

All you need is the new Cooky Cat cutter. With it, is free illustrated 6-page folder. This has easy new recipes for making grand-tasting gingerbread or chocolate cats or the plain sugar cooky variety. The cats make great big hit, decorated or undecorated.

IF INTERESTED

To get COOKY CAT CUTTER *plus* crescent moon cutter, *plus* the folder of delicious recipes and ideas, *described*, send name, address and 25¢ to **MIRRO** Manitowoc, Wis. *No charge for postage.*

If you decorate the cats, the whiskers are coconut; the big eye is a little red cinnamon candy.

Folder also has ideas for decorating cats and use of cats for decorating cake, for perching on top ice cream, etc.

As another plus, besides the folder, you are also sent a crescent moon cutter for making man-in-the-moon cookies . . . a fine treat for witches.

The children might enjoy helping you; big sister might make them herself.

***Treat for Halloween*—and every day**

For children and everybody Wrigley's Spearmint Gum is always a welcome, wholesome treat. The lively flavor satisfies yet is never rich or filling. And the pleasant, natural chewing helps keep young teeth clean, nice.

Advertisement

DON'T WALK INTO TROUBLE

Most foot ailments are the result of neglect. Here is advice from Foot Specialists on what to look for when buying shoes.

UNLESS YOU are reading this article in your doctor's office, the chances are about two to one that you've kicked off your shoes. Embarrassed? No need to be—you are just one of the millions who slip out of their shoes when they sit down to relax.

The sad part of all this is that there is no reason why you should not be comfortable with your shoes on. American shoe manufacturers offer a variety of styles, a wide choice of fitting combinations (length and width), plus construction and leathers superior to footwear produced anywhere in the world.

Recent surveys show that the chief cause of our foot problems is not disease—but neglect—particularly when it comes to the shoes we wear. An article in the Journal of the American Medical Association has stressed that "proper shoe fit is essential for foot health. Poorly fitting shoes may result in deformities of the feet." Equally important to foot comfort and foot health are shoes that are properly constructed of suitable materials.

To avoid walking into trouble when you buy your next pair of shoes, here is a check list to follow, based on interviews with many foot specialists and shoe retailers.

MAKE SURE THE SHOE FITS. Always have both feet measured and shoes fitted to the longest foot. Don't *you* tell the sales clerk your size. Allow him to measure each foot. You may take different sizes in different styles of shoes. Try on both shoes and walk in them. If they don't feel comfortable, try a different size. Do not assume that uncomfortable shoes will "break in." Shoes should be comfortable when fitted. Shop for shoes after you have been on your feet several hours, since feet tend to swell slightly with walking.

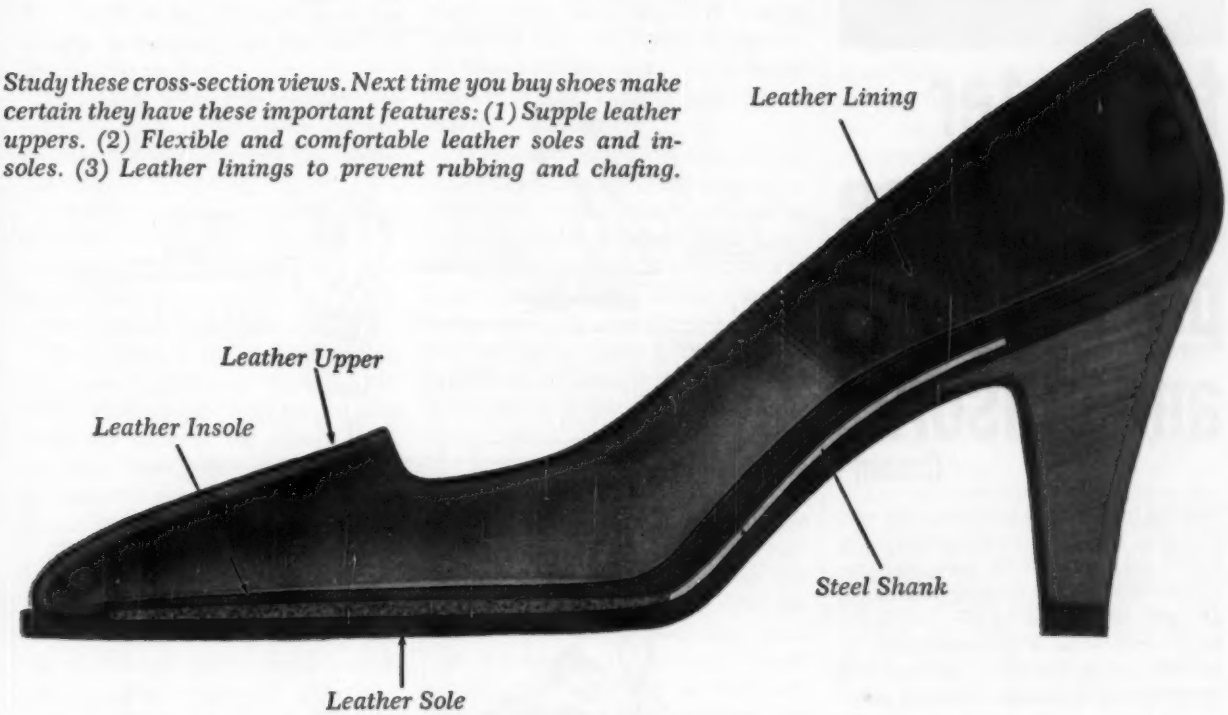
CHECK THE CONSTRUCTION. What goes into a shoe—inside and out—is the most important thing for you to look for next to fit. Foot specialists recommend that shoes be made of leather, both inside and outside. There is a two-fold reason why doctors recommend leather for shoe uppers, insoles, soles, linings, etc.:

1) The supple "give" of leather permits a correctly-fitted shoe to be *molded* to the wearer's feet within a matter of a day or two—thus providing permanent flexible support for the life of the shoe.

2) The thousands of microscopic pores in a square inch of leather allow the foot to "breathe" — that is, permit air to circulate around the foot, keeping it dry and comfortable. This is perhaps the

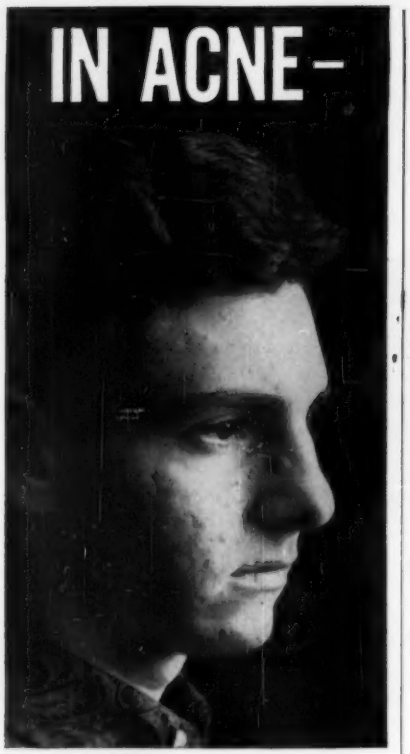
Advertisement

Study these cross-section views. Next time you buy shoes make certain they have these important features: (1) Supple leather uppers. (2) Flexible and comfortable leather soles and insoles. (3) Leather linings to prevent rubbing and chafing.



major factor in determining whether a pair of shoes will be healthful and comfortable.

MAKE SURE YOU ARE GETTING LEATHER. Special attention should be paid to the materials in the shoes you buy. Many persons report that they have encountered shoes made of plastic materials designed to simulate leather. It is only after the shoe has been worn that the wearer becomes aware that it is not made of leather. Plastic materials do not wear as well as leather. And most important, because of their impermeable structure, the plastics trap perspiration in the shoe and may cause feet to become red, irritated, chafed or swollen.



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A Woman's Way

by CISSIE

"We came to be winterized . . ."

"Oh, I love school, but my mother's not adjusting to the car pool . . ."

"Just remember that we gave this party to keep the kids off the streets!"

PHOTO: FABIAN BACHRACH

Something to Think About

by Charles H. Patton, D.D.S., President,
American Dental Association

Ask The Person Who Knows About Fluoridation

ONCE UPON a time, there lived in a small village, an old woman who couldn't make up her mind. She put off decisions, hoping they would somehow settle themselves. Since they rarely did, her life became a series of untidy crises.

Then, one day, she had an idea. "I know what I'll do," she said, "I'll have other people make up my mind for me. That way I won't have the trouble of deciding, but the decision will still be made."

Delighted with this notion, she sat right down to list all the current decisions to be made. Her list looked like this:

What kind of roast should I have Sunday?

What should I do about the leak in the roof?

Why are my rose bushes dying?

"Now then," she asked herself, "who should make up my mind for me?" Picking up her pencil, she wrote the name of the village druggist next to the first question, the shoemaker's next to the second, and the milkman's next to the last.

"Thank goodness," she sighed, "that's done. Now my troubles are over."

As a matter of fact, they had just begun. Though the druggist, shoemaker, and milkman were all trained in their own areas, they had no expert knowledge about the questions she was asking. Consequently, the old woman ended up with a tough roast, a leaky roof, and dead rose bushes.

This may sound like just a foolish fairy tale, but it has application in modern-day America. On a health issue of overriding importance, many of us are deciding exactly as the old woman did. We are asking the right questions, but of the wrong people. The issue to which I refer is fluoridation of community water supplies.

The fluoridation story began over 20 years ago. It was noted that people who lived in certain areas of the nation experienced fewer cavities than did people elsewhere.

A great number of careful studies were begun. As a result, it was determined that the lower decay rate in these certain areas could be ascribed to the natural presence of fluoride in the water.

Further investigation showed that when fluoride is naturally present, or added, the decay rate is reduced by as much as 65 percent. This is accomplished without ill effects of any kind. Finally, it was shown that the necessary equipment for fluoridating can be installed and operated at an approximate annual cost of 10 cents per person. Lifetime benefits from fluoridation, thus, cost no more than the fee for filling one cavity.

This was a public health bargain of remarkable significance. As the results became clear, every recognized health organization in the nation endorsed the process. The nation's scientists expected that communities across the country would swiftly install the process. Their expectation has not been realized. For reasons a sociologist could best explain, fluoridation has attracted opposition.

For example, the anti-fluoridationists scream that fluoride is poison. America's scientists patiently explain that many substances in common use by human beings are beneficial when used in *proper* amounts though harmful when used improperly. Improper use of aspirin is the cause of many accidental poisonings each year. Yet properly controlled, it remains one of our most useful drugs.

The anti-fluoridationists scream that fluorides have a harmful effect on the kidneys of adults. America's scientists pointed out that at the proposed amounts of ingestion, elimination, principally in the urine, is virtually complete.

Understandably, many of our fellow citizens have become confused, and in their confusion have settled for the status quo by rejecting fluoridation. But the confusion is unnecessary. The fallacy which causes the confusion is the same one indulged in by the old woman. The people are asking the right questions, but of the wrong people.

Fluoridation is a scientific process leading to better public health. When a question arises about fluoridation, it is only common sense to ask the men trained in the art and science of health care.

Ask your family physician or write the American Medical Association. Ask your family dentist or write the American Dental Association. Ask the U.S. Public Health Service. Ask the U.S. Department of Health, Education, and Welfare. Ask the American Association for the Advancement of Science.

In the final analysis, the nation's standard of dental health depends upon the actions of the citizenry. If that action is to be beneficial, it must be enlightened. It will be enlightened if you "ask the man who knows," and evaluate his answers in the light of his training, his experience, and his sworn obligation to protect your health. END

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Let's Talk About Food . . . *what you can do to assure your family's nutritional pleasure and profit.*

Edited by PHILIP L. WHITE, Sc.D.

•

What is a detergent food? I heard my dentist talk about this the other day. Does it mean foods that are soapy?

Dentists refer to the crisp, crunchy foods as detergent foods because they help to remove other food particles from the teeth. Dentists and physicians are quite concerned with sticky, high-carbohydrate foods that adhere to the teeth. Such foods are quickly acted upon by the bacteria commonly found in the mouth, and the acids produced during this bacterial digestion can etch the enamel and thus produce a site for decay to begin.

Chewing such crunchy, low-carbohydrate foods as celery, carrot strips, and radishes can do much to remove sticky foods from teeth.

•

The pumpkin is a grand symbol of fall; it also is the makings of a wonderful pie. In addition to its value as a jack-o-lantern and goblin dissuader, does the pumpkin have any nutritional value?

The pumpkin itself doesn't provide much other than vitamin A, for which it is an excellent source. One cup of prepared pumpkin will supply over 7500 International Units of vitamin A. That is more than the adult daily requirement. The same amount of pumpkin will also contain about 2.3 grams of protein, 1.2 milligrams of niacin, and a lot of good eating. The food value of pumpkin pie depends more upon the other ingredients than upon the pumpkin, especially the eggs and milk.

My children and I make two jack-o-lanterns every Halloween, and I must admit that our techniques are improving. We weren't at all troubled by goblins last year.

•

Occasionally I see references to "Plentiful Foods for the Month" or "Best Food Buys." Where do these suggestions originate, and what is their basis?

The United States Department of Agriculture Marketing Service prepares reports intended for the information of food editors, members of public and institutional feeding programs, and other food marketing people. The reports are forecasts of expected availability and distribution of agricultural products. These reports are not intended for public distribution, but most food editors mention the (*Continued on page 86*)

Doctor White is Secretary of the Council on Foods and Nutrition of the American Medical Association. The letters reprinted in this column are representative of the numerous inquiries he receives and answers each month.

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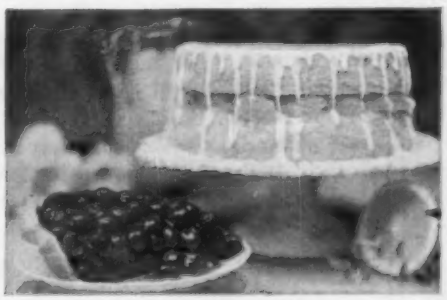
PASTA: Weight-watching recipes for Spaghetti Marinara, Spanish Rice.

SALADS: A feast of ideas for salads and calorie-controlled Wesson dressings.



DESSERTS: Luscious Chiffon Cake, Cherry Pie, Cookies for weight watchers

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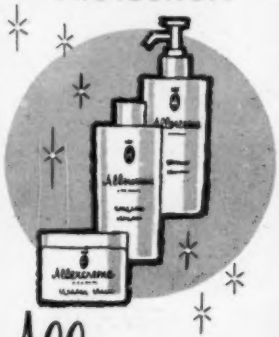

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Living Legends

A series of little known human interest stories about the world's best known people.

by Andrew Robin

AS A YOUNGSTER, Edith was petite and slender, with quick flashing eyes and a penchant for reciting stories and poetry by Scott, Keats, and Shelley.

Her father encouraged the girl's path toward learning. Long before her eighth birthday she could read, write, and speak Latin and Greek. Soon she was devouring the great classics, and the voices of Plato and Sophocles rang down the ages to thrill the young girl.

Edith was born two years after the Civil War ended, and grew up in Fort Wayne, Indiana. Her love for the classics continued throughout her stay at Miss Porter's Finishing School in Connecticut. She fervently wanted to continue her studies at college, but Miss Porter exclaimed, "You *can* become learned. But, my dear Edith, I don't think much of learning."

However, Edith did. She went on to Bryn Mawr and earned her B.A. and M.A. She decided to knock down the walls of prejudice that barred women from learning in the late 19th century, and set out for the classics center of the world, the University of Munich, Germany.

Edith herself recounts, "They wouldn't let me sit with the young students. I had to take notes at a little desk on the platform, beside the lecturer. The head of the university used to stare at me, then shake his head." Upon completion of her studies she returned to America and a teaching job at Bryn Mawr.

But this dedicated woman was, for 26 years, little known outside academic circles. Soon after her retirement she wrote a book on Greece which was published in 1930. She wrote in a popular vein; there were no musty bibliographies and no footnotes.

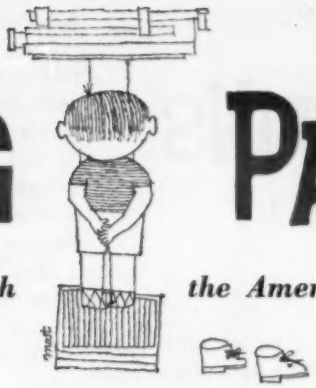
She continued to write with the very power that was Greek literature. Her translation of the *March of the Ten Thousand* reads: "So, always cold and sometimes freezing, always hungry and sometimes starving, and always fighting, they held their own."

Finally, 87 years after she had discovered the Greeks, the Greeks discovered her. She was flown to the Greek Acropolis. Frail and erect, she was made a citizen of Greece before world diplomats and royalty.

At 94, this wonderful scholar continues writing with warmth and affection. Who is she? (*See answer below.*)

Edith Hamilton, author of The Greek Way

GROWING PAINS



Edited in cooperation with the American Academy of Pediatrics

Is it all right to let my children sleep without pillows? A friend has told me it might be unhealthy.

To the best of our knowledge, there is no danger to health in sleeping without a pillow. The practice of using a pillow appears to be nothing more than a rather universal habit, but some people never use one. One advantage of a pillow appears to be that the sheets and blankets can be tucked in better around the shoulders and neck.

☆ ☆ ☆

I have always been careful about the comics my children read. Now I find that my son reads the very comics I won't let him buy by swapping with some of his friends. How can a mother cope with the comics-swapping problem?

There is only one real solution: See that no undesirable comics are available to swap. Many mothers are not so careful as you about what their children buy and you cannot forbid your son to read what his friends read. Therefore, why not bring up the problem of harmful comics at the next P.T.A. meeting and, as a body, send in a formal protest to the stores in the neighborhood selling such comics? In many communities, the P.T.A. has done a remarkable clean-up job by these tactics. Merchants cannot afford to incur the ill-will of the school and the parents of the neighborhood and, therefore, will cooperate with you in this matter.

☆ ☆ ☆

Why is it important to keep the primary teeth in healthy condition until they are shed?

Primary teeth maintain the shape of the dental arch and necessary space for eruption of the permanent teeth. In addition to the possibility of causing malocclusion, decayed primary teeth may become infected and abscessed.

My four-year-old son is bowel-trained but not bladder-trained. He was also slower about walking and talking than others his age and drools on the front of his clothes. I try to show patience and take into consideration his slower development but would appreciate your advice.

From your description, your child does seem to be slower than average in his mental development and development of motor skills. I think you would be considerably helped by medical and psychological evaluation of his capabilities so that you would know better what to expect from him and how best to help him progress at his maximum rate. In general, I think your approach is correct and that it would be wrong to try to push him too hard. One cannot force a child to learn; he can only be encouraged to do so by the presentation of many learning opportunities under pleasant conditions.

☆ ☆ ☆

What makes a five-year-old boy say "I can't" when I ask him to count or say the alphabet? I have heard him say both while playing and unaware of anyone hearing him. Would kindergarten help?

Your child apparently is either teasing you or feeling negative about the idea of performing as requested by adults. It might be very helpful to enroll him in a kindergarten or nursery school. It is much easier for a teacher to obtain cooperation and interest in learning from most children than it is for a parent. This may be due to the fact that the parent is around the child all day and the child may resent the constant possibility of pressure to perform in an acceptable fashion even if you feel you are not actually asking him to do so. The child also gains a great deal from the example of the other children in the group and his natural desires to join with them in their activities help him in this regard.

GROWING PAINS

Continued from preceding page

My eight-year-old son has picked up a lot of "dirty words" about sex and elimination. I think he gets most of them from his playmates and perhaps from the comics he reads away from home. Isn't there any way to stop a child from using such words except washing his mouth out with soap?

Even the old-fashioned soap and water treatment did not keep a child from using "dirty words" behind parental backs. All it did was convince him that he had better watch what he said near adults.

There are, however, two things you can do about this matter. First, be sure your son has correct information about sex and elimination and that he has a wholesome attitude which emphasizes that they are normal functions of the body, not something to be ashamed of. Second, explain to him that swearing and use of foul language is usually an attempt to show defiance or attract attention, even though unfavorable, by persons not able to earn favorable attention or rewards.

Point out to him that if he continues to use this language others will get the impression that he is not proud of himself or his abilities. This will naturally work to his disadvantage. The other point in this regard is that this language will not earn respect or friendship of his playmates, as it is contrary to good sportsmanship.

☆ ☆ ☆

My 10-year-old son has been offered a puppy and wants to bring it home. I have told him he must assume full responsibility for the puppy. His father thinks this is too much to expect of him.

To a child your son's age, a puppy may mean a tremendous amount in the form of companionship and devotion. It would seem a pity to deprive him of this. You cannot expect a 10-year-old to assume full responsibility for the care of a pet. He is too young. He can, of course, do something for the puppy, but you and the other members of the family will have to help, especially in the first few months. Make the necessary sacrifice in time and effort for your son's happiness. Furthermore, I am sure the puppy will bring happiness to every member of the family.

My five-year-old daughter is almost petrified to have her head washed or have water anywhere near her nose. She also has a habit of grinding her teeth in her sleep. What may I do?

Many small children of this age go through a period where they protest violently against washing procedures which threaten to get water in the nose. This is very natural, as most youngsters do not know how to breathe through their mouth any more than they are able to take a deep breath and hold it. It is therefore necessary to exercise caution when washing their head or face to avoid this possibility.

However, I see no reason why it should not be possible for you to firmly and quietly insist on the necessity of washing. The child will soon learn that it is quite possible to wash without getting water in the nose.

Grinding of the teeth is a more difficult problem and one for which there is no satisfactory or simple answer. It is one of a variety of habits or behavior patterns which small children may learn or develop, such as fingernail-biting, hair-pulling, rocking in the bed, head-banging, picking at blankets or the nose, as well as the almost universal practice of thumb-sucking at some stage of development.

All of these are to some degree irritating to adults and seem to be best treated by quiet discouragement where possible and ignoring them where it is not feasible to discourage them. Eventually the child will pass through this stage and will sleep in a more relaxed fashion.

It might be helpful to promote a quiet period of pleasant activities with the parents prior to bed time, such as by playing quiet games or reading stories. The activities and learning experiences of children of this age are often extremely demanding and fatiguing and it is not surprising that many youngsters are extremely tense and excited by the end of the day.

☆ ☆ ☆

Is the strawberry birthmark considered congenital? Is it common?

The term congenital means "born with." Evidence shows that under this definition strawberry marks are not congenital. In a recent survey of nearly 5000 births, not a single instance of such a mark was found at the time of birth. In most infants who developed such marks, the parents usually noticed it from a week to a month and a half after birth.

This skin marking is estimated to occur in one of every 10 to 12 infants. In most cases, it disappears just as quietly as it develops after being present from a few months to a few years. If treatment is considered necessary it usually can be done without the need of surgery. The mark represents a simple dilation of small skin arteries, and is harmless.

Readers are invited to mail their questions to Growing Pains, Today's Health, *535 N. Dearborn, Chicago 10, Ill.*

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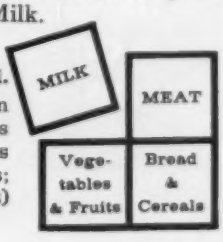

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The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

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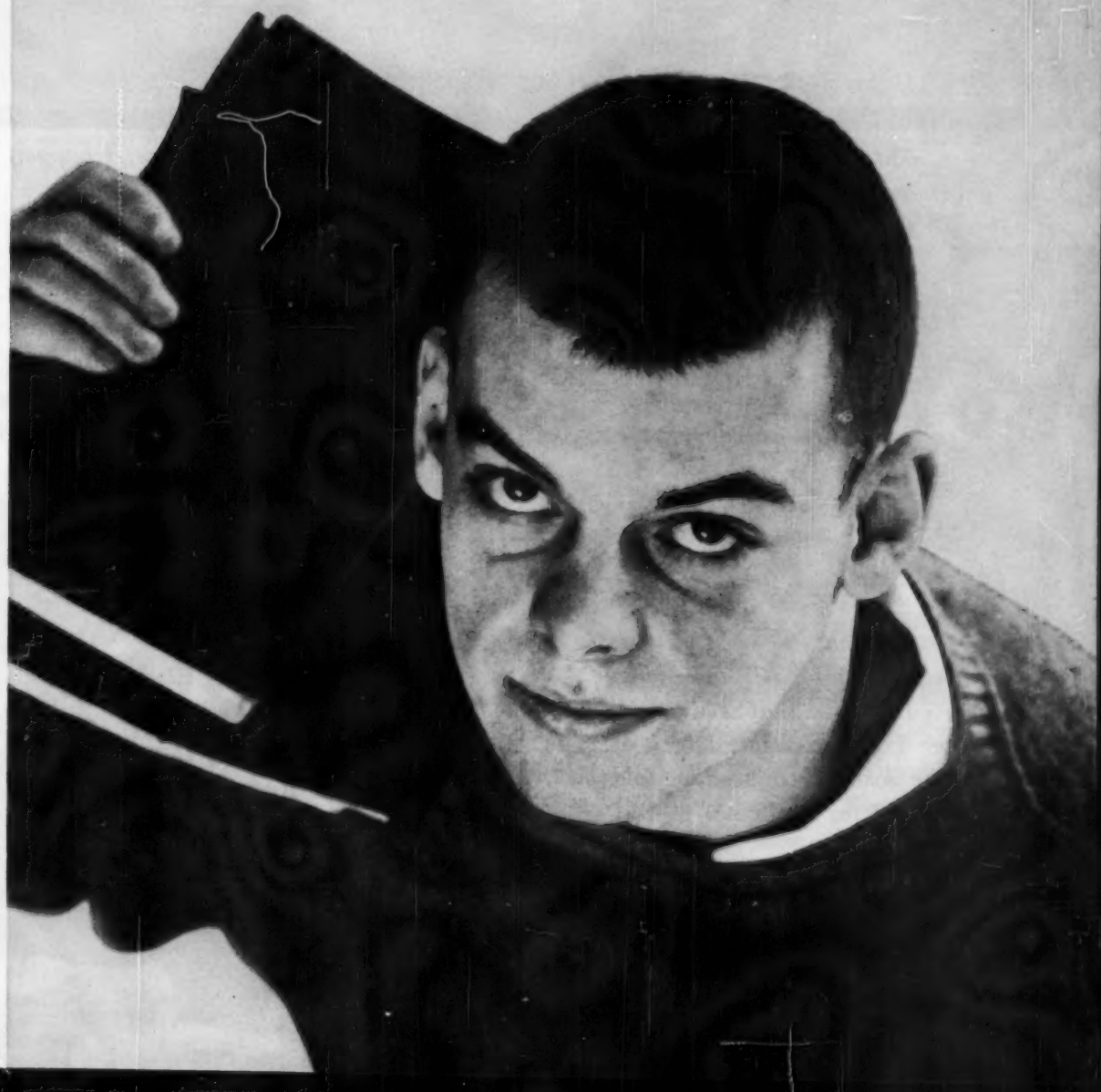
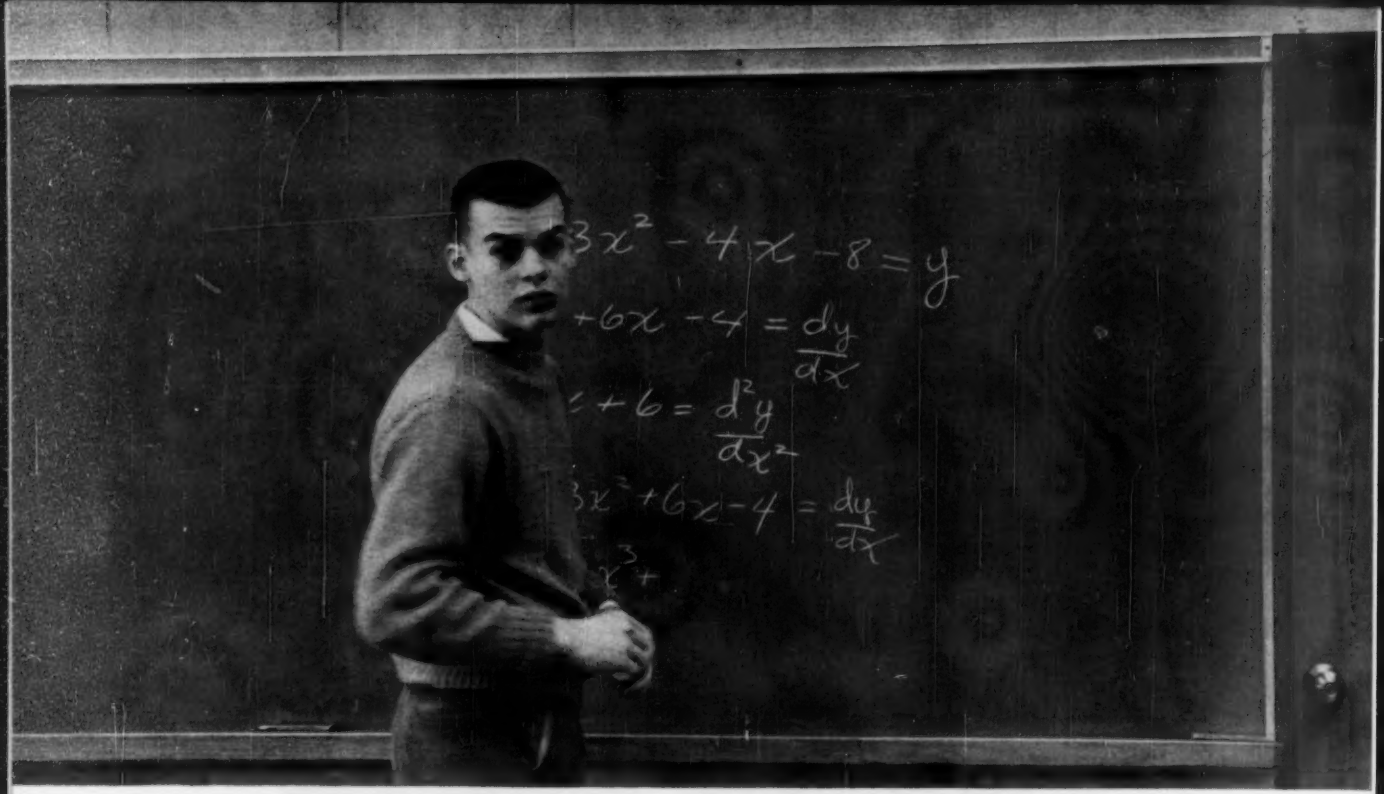
A Doctor in the Making

by Dennis Orphan

What makes a 17-year old boy want to become a physician? Who helped him decide that medicine was the profession he could best serve? Where in his young career did he realize that the practice of medicine was for him? Allen Tonkin of Linden Leaf Drive in Glenview, Illinois,





"I'm glad pre-medical students need a certain amount of mathematics; I happen to be a nut on the subject. In fact, I really enjoy working on problems."

"I really can't put my finger on the time when I decided that medicine was for me. After I took a whole bunch of tests, one of the school's counsellors told me I had the 'tools' for medicine."

"I enjoyed my social studies and English courses. I also took three years of mathematics and science courses, and there was a lot of lab work, too."

a northern Chicago suburb, thinks he has an answer to these questions.

"What made me decide to become a physician?" he repeated the question to himself. "I frankly don't know, but a lot of forces were at work. I know one thing: It wasn't anything dramatic. You know, like the movies. I'm sure you have seen the situation where the hero is walking down the street and suddenly he looks into space and mutters to himself: 'I want to be a doctor, or an engineer, or a cowboy.' No, it wasn't anything like that. And yet, when I say to myself that I want to be a doctor so I can help my fellow man, it sounds corny. But that's the reason."

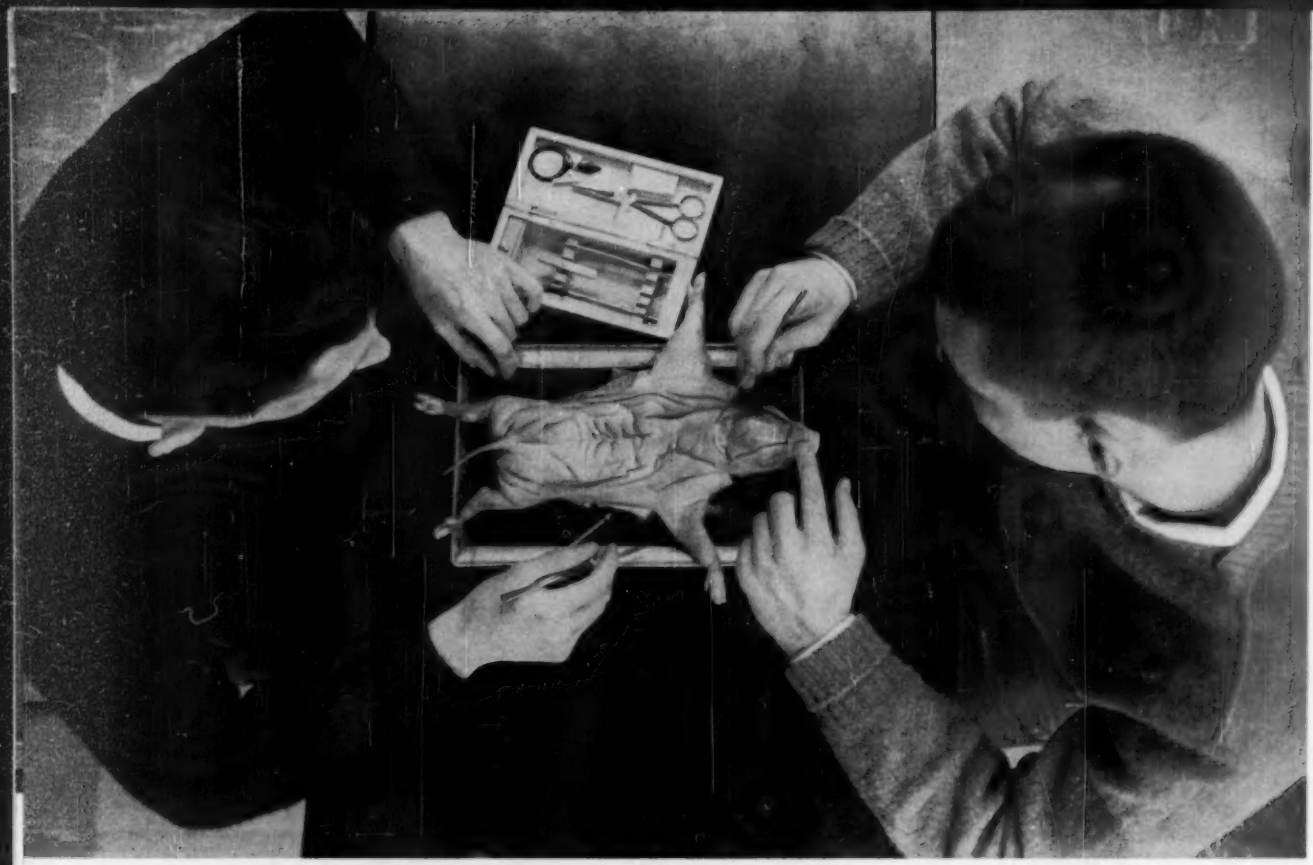
There's no "ideal" time when students determine what profession or career they wish to pursue. Some, like Allen, are convinced when they are in high school. Others wait to make a decision in their college years. Still others have the decision made for them by fathers or other relatives.

At this point, Allen isn't quite sure what kind of physician he wants to be. "I've studied the situation pretty intensely," he says, "but I guess I'll wait until I'm in medical school before I decide exactly what I want to do. The door is sure open. The life of a family doctor appeals to me. He heals people when they are sick and scared and gives them a new outlook on life. That must be a great feeling of satisfaction to have —to do something good for people— to save someone's life."

Allen might look into many satisfying fields currently challenging new physicians. Medical investigation and research is one. Or he may consider an entire new field in space medicine, electronics, or nuclear energy. If he has an urge to mold other minds, he might consider teaching medicine as a profession. There are special medical problems in industry, public schools, administration, and public health that might intrigue him enough to enter one of those specialities. The Armed Forces

PHOTOS: ARCHIE LIEBERMAN FROM BLACK STAR

"A physician has to have the knowledge and skill to prevent and correct many of the defects, flaws, and diseases of the human body and mind. Through research and experience in practice, he is constantly adding to medical knowledge."



"In a biology course we dissected a fetal pig, exposed the brain, studied it, and learned about the animal's internal structure. The operation fascinated me."

need and want physicians and Allen might end up with the Army, Navy, or Air Force. He might even try his hand with foreign service. The rewards and opportunities are there for Allen to taste.

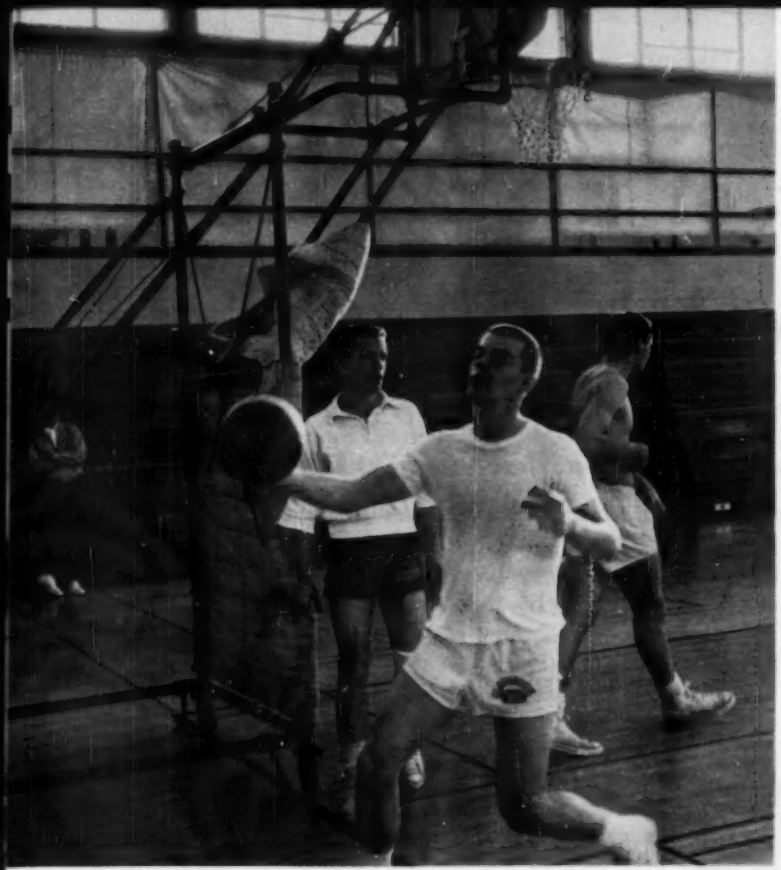
"When I first entered high school four years ago, I wanted to become an engineer like my dad. I have always known him to enjoy his work and to make a pretty good living. I really can't put my finger on the time when I decided I'd like to go into medicine. I might have decided to become a doctor after taking my first biology class, where I enjoyed dissecting animals and learning all about their physical structure. Or, after I took a whole bunch of tests, one of the school counselors told me I had the 'tools' for medical training. And then I remember being impressed with a film I saw in school showing the birth of a baby. I guess all these things blended together and each helped me decide to become a physician."

When Allen entered nearby Glenbrook High School, he started a college preparatory course including three years of laboratory science, three years of mathematics, four years of English, two to three years of social studies, and two to four years of modern foreign language. Medical educators agree that the best preparation for the study of medicine at this age is the same as for the preparation to meet the admission requirements of any college or university. So, Allen was on his way. Last June, he finished his courses and he got above average grades.

But he did more than take courses. He became active in student government and in his last year he was vice president of the senior class. Allen played forward and guard on the varsity basketball squad—he's over six feet. He was an honor student and won various awards when he competed in an industrial arts fair. Once he participated in a science fair, completely unimpressed the judges, and he wasn't disappointed when the prize committee bypassed him.

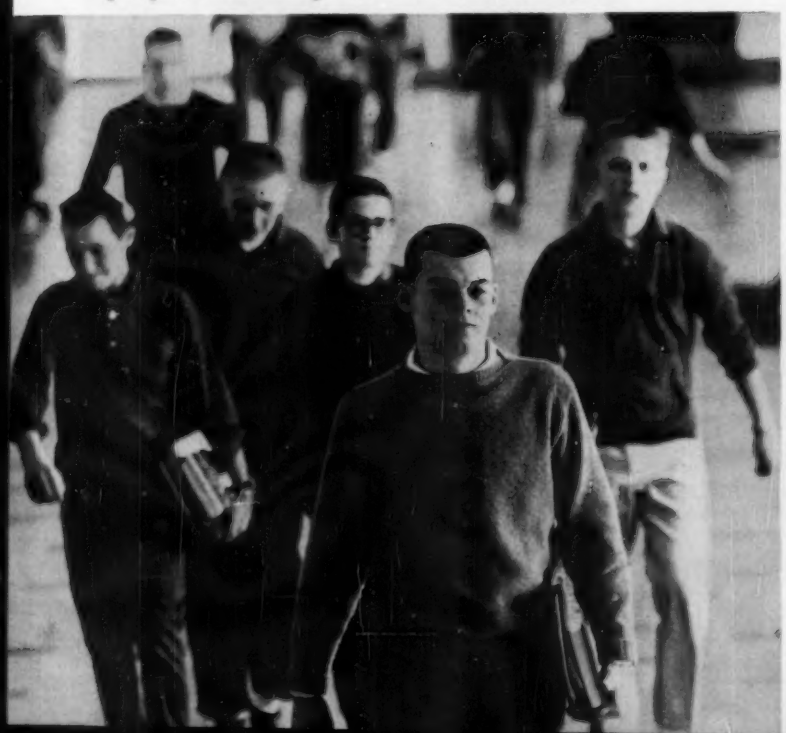
During the summertime he golfs, fishes, goes swimming, plays tennis, and works part time during the week and on Saturdays at Rugens Hardware store in Glenview.

"They tell me that medical schools are looking for the ideal student; tall, handsome, of great personal integrity, beautifully mannered, cultured, highly intelligent, a tireless worker, original, good with his hands, skillful in exposition, a good mixer, athletic, devoting his spare time to extramural activities, and so on. Well, after I enter they are still going to be looking for him," he says. (*Continued on page 62*)



"Every student should find time to participate in sports or extracurricular activities."

"The life of a family doctor appeals to me. He heals people when they are sick and scared."



"I learned a lot in high school, and I had a lot of fun. But I'm looking forward to college and to medical school."

Hardening of the Arteries: Everybody's Disease

It usually begins in childhood and most of us have it. Yet it's not inevitable. These facts we know. Research with animals may tell us many more we don't know.

by **IRVINE H. PAGE, M.D.**

Director, Research Division, Cleveland (Ohio) Clinic Foundation, and former president, American Heart Association.

HARDENING of the arteries, another name for arteriosclerosis or atherosclerosis, occurred in man at least 5000 years ago. What is surprising is how little we know about it after all this time, especially since some 500,000 Americans will die as a result of it in the next 12 months. Some investigators believe that this condition is on the increase, others insist that because people live longer, they have greater opportunity to develop this disease.

Investigations into the causes of arteriosclerosis were probably held back by the conclusions of many that it was not

PHOTOS: AMERICAN HEART ASSOCIATION

Above: Though stress has been implicated as a cause, research with chickens has shown that inactivity may be harder on the arteries than having to face competition.

Left: Is fat in the diet a cause of arteriosclerosis? Wild baboons are vegetarians, eat no animal fat. Yet a high percentage have fatty deposits in their aortas.

really a disease but merely a manifestation of old age and therefore inevitable. We now know that hardening of the arteries is not inevitable and that it usually begins and often may be extensive in youngsters.

Still another curious facet concerned in the history of knowledge of arteriosclerosis is the failure of astute physicians of a generation or more ago to recognize and treat what we now call a heart attack or "a coronary." Not until the early 1920's did Dr. James Herrick of Chicago convince the medical profession that such attacks are chiefly due to clots which originate in what are called the coronary vessels of the heart. These are the blood vessels that form a crown and sweep down over and within the heart muscle to supply it with blood.

This murky beginning of the study of so dangerous a disease has now been clarified. The past 20 years have seen a remarkable change in attitude by the public, physicians, and research workers. The public now knows that persons are not necessarily doomed when they have a heart attack caused by hardening of the arteries—President Eisenhower dramatized that.

The physician knows that some reasonably good treatments are available for such heart attacks and that this is a disease and not just an accompaniment of old age. The research worker now knows that this is a fascinating field for work covering many areas of science, from organic chemistry to study of the Bantus in South Africa, the baboons in Central Africa, the animals in the Philadelphia zoo, or the Italians in south Boston.

Hardening of the arteries, then, is a disease which most of us have and for some time will provide employment for many of us before its inner nature will be known so that it can be prevented and cured.

Arteriosclerosis is an important disease because it involves most of the arteries of the body at one time or another, notably those of the brain, heart, kidneys, and limbs. In each of these it causes characteristic manifestations. For example, in the brain it may lead to stroke or apoplexy, in the heart to coronary thrombosis, in the kidneys to a form of Bright's disease, and in the legs to gangrene or pain with even moderate walking. Arteriosclerosis is the basis of all these serious bodily derangements.

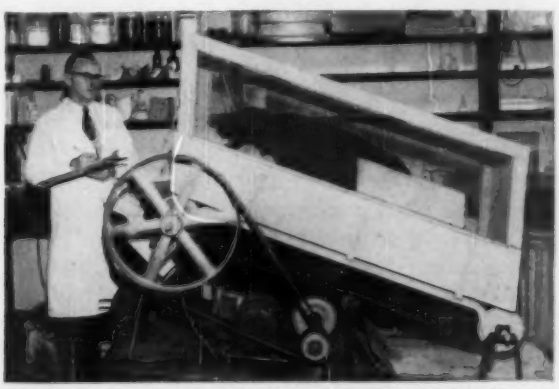
It is not a "glamorous" disease, and develops slowly without overt symptoms in the beginning, but it is implacable and progressive. It does not make the headlines but it does the obituary columns.

Arteriosclerosis seems to (*Continued on page 63*)

Condensed from Heart Care: An Authoritative Guide by Twenty Experts, *edited by Morris Fishbein, M.D.* © *1960 by Doubleday & Co., Inc.*

In rhesus monkeys fed a diet in which 40-45 percent of the calories were fat (comparable to human diets), the blood cholesterol level rose three to five times normal.

High frequency of the disease among zoo animals has been blamed on "social pressure," inactivity. Agouti, a South American rodent, showed the highest incidence.



To learn if mild exercise can help heart victims, researchers narrowed heart arteries of dogs, found that exercise helped foster the growth of new blood vessels.

Let's Get Our Feet on the GROUND

by ***THEODORE IRWIN***

Whether we stroll, saunter, promenade, or jog along—for exercise, meditation, or to explore the world around us—each of us who walks voluntarily finds it a rewarding pleasure. The trouble with most Americans is that walking is becoming a forgotten sport and a lost art. People would rather jam themselves into crowded buses than ambulate a dozen blocks. Some people even rent electric carts to take them around a golf course. People who found it hard to fall asleep have discovered that a long, brisk walk in the late evening is more effective than a pill or a late-late TV show.

HARRY S. TRUMAN, one of the nation's most eminent practitioners of the perambulatory pastime, was recently asked by reporters why he takes his famous early morning stroll:

"I believe it will make me live longer," he replied, with characteristic candor.

My friend Don, a busy corporation lawyer, has taken of late to walking two miles from his suburban home to the railroad station each morning. "It stirs my mind into action," he says. "The jolt of walking loosens ideas and gives them a chance to rub against each other."

Strangely, the public seems to be amused by Mr. Truman's peripatetic custom, and I sometimes notice passing motorists staring at me as if, by using my legs instead of wheels for locomotion, I were violating some sacred social convention.

Golf carts (some of which look more like light trucks) that transport lazy men from tee to tee, drive-in churches, banks, and movies make walking non-essential. The other day, I noticed a neighbor get into her car to drop a letter into a mailbox only a few hundred steps away.

Not long ago, addressing the American Academy of General Practice, ex-football coach Lynn Waldorf of the University of California remarked that the universal routine of jumping into a jalopy to travel a few blocks was making our youth softer and softer. The standard football practice, he pointed out, used to include "duck waddle" exercises and deep-knee bends to *loosen up* the knee and leg muscles. Nowadays, however, what's needed are "bucking-machine" drills and stair-climbing sessions to *strengthen* leg muscles.

"If our youth doesn't walk more," warned Waldorf, "they'll wither."

Many physicians believe that today middle-aged Americans, too, are soft and this may be a factor in some of their ailments.

Everyone apparently agrees (theoretically) that as a healthful exercise, walking is fine and dandy. Even the most sedentary doctors prescribe walking for patients because "it will do you good." The Greeks believed a long walk was a tonic, and Pliny the Elder described it as one of the "medicines of the will" (you have to have will power enough to take a walk).

Hippocrates, patron saint of medicine, mentions walking 40 times in one chapter on digestive diseases, and he prescribed brisk walks, short walks, early-morning walks, after-dinner walks, and night walks. Brisk walks were recommended to "reduce weight;" early-morning walks, for emotional disturbances.

Physiologists say that fresh air and an exercise such as walking stimulate the brain by feeding it more oxygen. Digestion and bowel function are improved and those who walk regularly often find they don't need laxatives.

Dr. Paul Dudley White, the Boston heart specialist who treated President Eisenhower, is an energetic walker and drum-beater for the idea. (*Continued on page 74*)

PHOTO: DON STERLING

Anatomy of a Toothache

Next to the common cold, tooth decay is probably the most universal disease suffered by mankind. It is estimated that the average American is troubled with one and a half cavities each year.

by **HOWARD EARLE**

AMERICA, as the rest of the world, has a colossal toothache caused by decaying teeth. About 19 out of every 20 Americans are affected. Everyone agrees that decay is the root of most tooth trouble, but not all are agreed on what causes decay, or how best to combat it.

Dentists regard tooth decay as a disease, although most persons do not think of it as such. Many diseases in the category of decay have a common characteristic—they destroy tissue, the substance of which the body is composed.

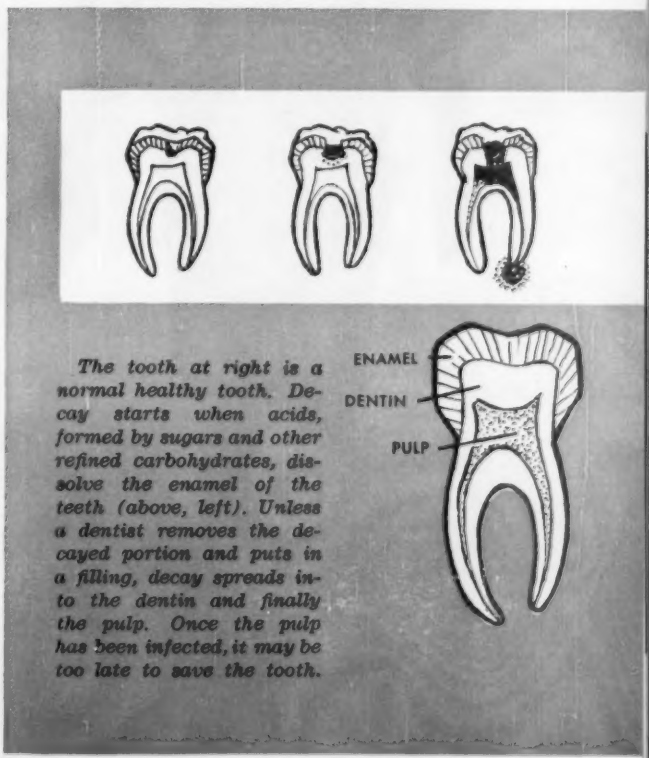
There are various kinds of body tissue, such as skin, bone, muscle, eye, and hair. It is readily understood, then, that referring to disease as tissue destruction is another way of saying that parts of the body are destroyed by it. This is especially true of infectious diseases, which often cause death by "consumption" of a single vital organ.

Tooth decay, since it is tissue destruction, is a disease. The disease or decay starts by destroying the hardest tissue in the body, the enamel or outer covering of teeth. This first is indicated by the appearance of caries (decay) in a tooth. If unchecked, the decay process eats away to the dentin under the enamel and, after this action, decay progresses rapidly through the dentin into the tooth's pulp, a soft, pith-like center containing the nerves and blood vessels.

Many people think a tooth aches only when decay reaches the pulp and the nerve is exposed. This is not true. Enamel caries can be painful. In fact, dental tubules appear to be capable of transmitting pain or stimuli that cause it. Your dentist may jar you by calling it pulpitis. It's still a toothache, though, and can be a colossal one.

Toothache, and the tissue destruction accompanying it, can be prevented by filling cavities in their early stages, while holes still are tiny. A major problem, though, is that cavities are not always detected when pin-point size, or before causing trouble. Some occur on exposed surfaces where they are easily seen. But others develop on the area of a tooth where it is pressed tightly against another tooth, completely hidden from even the sight and probe of the dentist, who is proficient in the art of "feeling" most of the cavities he finds.

The x-ray, of course, has become an invaluable instrument in finding hidden caries, enabling the



The tooth at right is a normal healthy tooth. Decay starts when acids, formed by sugars and other refined carbohydrates, dissolve the enamel of the teeth (above, left). Unless a dentist removes the decayed portion and puts in a filling, decay spreads into the dentin and finally the pulp. Once the pulp has been infected, it may be too late to save the tooth.

dentist to view areas in and about the teeth not exposed to natural sight; therefore, periodic x-ray examinations to discover tooth decay are most important and so inexpensive today that nearly everyone can afford them. In fact, a whole lifetime of x-ray examinations may prove less costly than treatment of teeth after a toothache occurs. But the individual must make himself or herself available for such x-rays.

The American Dental Association (ADA) points out that too few, youngsters and adults alike, make regular periodic visits to the dentist. They wait until a toothache warns of impending trouble. Then treatment, instead of prevention, is necessary.

If decay has progressed to the point where the tooth can be saved only by removing the pulp, the tooth so treated is known as a pulpless tooth. It might also be called a non-vital tooth.

There is a common fallacy about a non-vital tooth that some dentists seem intent on keeping alive. They hold that pulpless teeth may cause any of the innumerable degenerative diseases attributed to infection.

Contrary to these conceptions, authorities at the ADA report a properly treated pulpless tooth will give no more trouble than a healthy tooth. Neither will it decay. But it is the wise person who chooses prevention over treatment.

When it comes to prevention, statistics on a national scale show that few individuals practice it in dental care until after experiencing dental trouble.

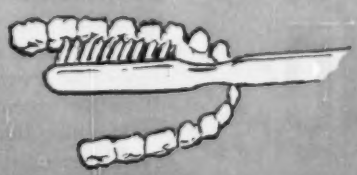
Dental defects were the largest single cause of rejections among the first two million men examined for military service during World War II. Nearly 10 percent of the men between the ages of 18 and 35 could not qualify, although the armed forces required only that six upper teeth make contact with six lower ones.

Examination of some 70,000 Navy inductees disclosed that the typical 18-year-old has more than seven decayed teeth needing attention, with another six already filled. It's estimated that 22 million Americans over 35 have lost their natural teeth or wear some form of dentures. In a lifetime, over 98 percent of the population suffers from tooth decay.

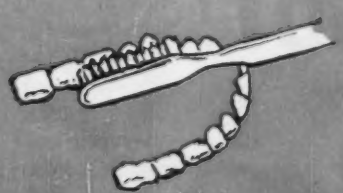
There has been an outcropping recently of reports that tooth decay is infectious and therefore catching. Scientists at the National Institute of Dental Research, a branch of the National Institutes of Health, Bethesda, Maryland, Robert J. Fitzgerald, Ph.D., and Paul H. Keyes, D.D.S., M.S., demonstrated that caries in research rodents can be considered a transmissible disease. Their experiments indicated that the microflora of the alimentary tract is a probable source of infection. Since these disclosures, some researchers indicated (*Continued on page 70*)

BRUSHING YOUR TEETH PROPERLY

Correct toothbrushing immediately after eating is an effective way to help keep the teeth clean.



Brush chewing surfaces of upper and lower teeth.



Brush upper teeth with a straight downward motion.

Don't forget the inside surfaces of upper teeth.

Place brush bristles towards roots of teeth.

Rotate the brush so bristles sweep over gums.

Don't be fooled by over-the-counter sleeping pills and so-called tranquilizers that require no prescription. The truth is,

"QUIET PILLS" ARE NO SHORT CUT!

by THEODORE BERLAND

OURS IS A WORLD of tensions and turmoil bounded by worries of nuclear annihilation, population explosion, political upheaval, and domestic strife. Our private worlds, too, may be full of job frustrations and family crises.

We see anxiety wherever we turn. Little wonder, then, that 17 million Americans, 10 percent of our population, have serious emotional problems and that mental illness has been called our number one disability.

The University of Michigan's Survey Research Center recently found that one of every four of us considers his emotional personal problems serious enough to need professional help.

Unfortunately, it was found, only half the people who feel they need help actually seek it. Many of the others are afraid of the "shame" or stigma of admitting that they cannot cope with their emotions.

To alleviate the most common symptoms of emotional distress — trouble falling asleep and nervousness — many Americans today turn to the nostrum counter rather than to their family doctor or to a psychiatrist. There they are likely to find and buy—*for magical relief*—nonprescription medicines for quieting their nerves, sold under the guise of sleeping pills and "tranquilizers." The very fact that these "quiet pills" can be bought over the counter should be clue enough as to the doubtful benefits they can bring to anyone's tensions. However, in the face of the quick advances of medical science today, there are untold millions of us who prefer to analyze our own ills and make hospitals of our bathrooms.

In the case of sleeplessness and nervousness particularly, such self-treaters are being penny wise and pound foolish. They are deluding themselves into thinking that [illegible] a dollar or two they can avoid professional treatment. Actually they stand the risk of aggravating their mental turmoil and [illegible] condition. When finally they do consult a physician, they may require more extensive treatment than if they had sought his help in the first place.

The great boom in the sales of over-the-counter "tranquilizers" and sleeping pills in the past few years rests on two important drug developments.

The first was the discovery of antihistamines about 20 years ago for the treatment of hay fever and other allergic conditions. As soon as they were sold to millions of people, starting in 1949, as the "new cure" for the common cold an interesting side effect came to light: drowsiness. Several alarmed medical men then suggested that this might have been responsible for certain unexplained auto accidents.

To quote *The Dispensatory of the United States of America:* "Sedation is the most common side effect and occurs to a greater or lesser degree in almost all of the antihistaminic drugs in adequate doses."

For this reason, the Food and Drug Administration requires manufacturers to label antihistamines with this warning: "This preparation may cause drowsiness. Do not drive or operate machinery while taking this medication."

The second major drug development was that of the tranquilizers, first used in mental hospitals in 1953 and widely used after 1955. In the period 1955-57, tranquilizer prescriptions trebled to a total of 30 million a year; today they represent a quarter-of-a-billion-dollar industry.

Before the advent of tranquilizers, doctors often used sedatives to reduce anxiety in

(*Continued on page 68*)

NG

You Can Prevent

POISON ACCIDENTS

Many common household items are poison hazards for children. Don't let neglect result in a serious or fatal accident to your child.

by ROBERT M. HENDRICKSON

A BOTTLE of candy-flavored aspirin carelessly set down on the bathroom washbasin, mother's purse with nail polish and perfume left lying on the bed, household bleach and cleansers kept in a cabinet under the kitchen sink, rust remover and paint thinner stored on that low shelf in the basement—common household items in common household situations, and all of them poison traps for the young and curious.

According to U.S. Public Health Service estimates, approximately 600,000 children a year swallow poisonous substances. About 500 of these unfortunates die.

Children, especially those under five, are the principal victims of poisoning. Recent reports from poison control centers show that 90 percent of poisoning incidents occur before age five, with 18 months to two years being the most hazardous period.

You can help protect your child from poisoning by understanding the dangers he is likely to encounter. Between ages one and two, the child is beginning to investigate. His surroundings are new and exploring them a great adventure. He enjoys climbing—by getting on a chair he can easily reach a bottle of floor wax left on a kitchen cabinet. He loves opening doors and drawers—sleeping pills kept in a bedside nightstand or mothballs stored in a bottom dresser drawer come within reach of his tiny fingers. He wants to know how things taste and will put any object into his mouth. And he has no sense of danger.

From two to three the child is impatient with restraint. He doesn't like being told "No" and your warnings about poison may go unheeded. Lightning fast, he likes to imitate and wants to do things alone: Mommy and Daddy take medicine so he tries it too—when you're not looking. He is beginning to understand, but still hasn't learned what is dangerous and what isn't.

The youngster aged three to six starts to explore the neighborhood and may often be out of sight. He should be cautioned about the dangers of gasoline, kerosene, auto waxes and polishes he may find in garages or tool sheds. Weed killers, insect sprays, and ant or roach poisons should be locked up. Check on his whereabouts and activities *frequently*.

But knowing your child and his habits is only one part of the problem. The danger of accidental poisoning is greatly increased by the vast and bewildering variety of potentially poisonous substances.

There are a quarter of a million trade-name chemical products currently at use in home and industry. Modern technology adds hundreds of new commodities to the shelves each year. Older products are reissued with changes in their chemical make-up. In the cosmetics field alone, as many as 1000 to 2000 new items appear each month, many disappearing shortly thereafter.

There are several lists of basic chemicals that can be toxic or hazardous. But no comprehensive list exists of chemical mixtures or compounds. One study rated the toxicity of over 15,000 household and commercial chemical products, excluding drugs. The investigators concluded that 79 percent of the products should be considered moderately toxic or worse.

IT is obviously impossible for anyone, even the poison expert, to know *all* the poison hazards your child may encounter around the house and neighborhood. But the major sources of danger are clear.

Medicines are far and away the largest cause of childhood poisoning, accounting for more than half of reported cases. Youngsters are especially sus-

PHOTO: ILLINOIS DEPT. OF PUBLIC HEALTH

The family medicine cabinet should have a lock. Children in the climbing stage can reach amazing heights.

ceptible to brightly colored, interestingly shaped, and attractively packaged drugs of all kinds. Reports of poison incidents include many common medicine chest items: calamine lotion, cold pills, liniment, tranquilizers, laxatives, cough syrup, eye medicine, nose drops, iron tablets, iodine, sleeping pills, vitamin capsules, heart and stomach medicine.

But the most frequent cause of all child poisoning is aspirin. It figures in 20 percent of poisoning incidents. Aspirin is the one drug which is found in almost every home. Many families use it for nearly all illnesses. The universal use of aspirin, combined with the late appearance of toxic symptoms in case of an overdose, make it a particular danger to young children.

Roger J. Meyer, M.D., of Boston, recently reported on 94 cases of accidental aspirin poisoning in children. In every case but one, the parents had previously encouraged the child to take aspirin by telling him it was "candy." Most of the aspirin involved were the flavored variety. All the families had a special place for medicine but two factors eliminated this safeguard: Either the family was unaware of the dangers of aspirin or failed to take adequate precautions to keep it from youngsters.

ANOTHER large group of substances that can poison children are obvious hazards: bleaches, drain cleaners, ammonia, spot removers, and dry-cleaning fluids, for example. But many other common household items are usually not thought of as poisonous and this increases (*Continued on page 86*)

After calling your physician, give the poisoned child milk or water if he is conscious and able to swallow.

PHOTOS: NATIONAL SAFETY COUNCIL

Keep the vomiting child from inhaling stomach contents by holding him on your lap in the spanking position.

General Armstrong, shown with constant companion, a Dalmatian named Pepper, lives in Virginia, is now retired.

The Man Who Paved the Way for Astronauts

Gen. Harry Armstrong's pioneer research efforts heralded a new era in aviation. He helped chart the medical course for the space age, and his trail-blazing experiments made it possible for man to fly faster, higher, and more comfortably in peace and in war.

by ERNEST BARCELLA

He and his wife grow roses of every hue, and many other types of flowers.

THE TALL, spare man in the khaki trousers and blouse stepped down smartly from his bright red tractor. For a long moment, his penetrating eyes painfully surveyed the damage wrought by a violent thunderstorm that smashed through a grove of hickory, oak, dogwood, and redbud trees. He paused impatiently from the urgent task at hand, fingered off his work gloves, and pushed his swordfish cap back from his sweaty brow.

Then—at first reluctantly—retired Air Force Gen. Harry Armstrong reached back nearly 30 years and relived an adventure which was, in its own way, the Kitty Hawk of aviation medicine.

Armstrong, then a flight surgeon assigned to the 1st Pursuit Group (Eddie Rickenbacker's famed World War I unit) at Selfridge Field, Michigan, recalled that he had a free weekend. So one of his pilot buddies invited him to fly to Minneapolis.

"Those were the days of the open, unheated cockpits," the General reminisced. "It was a nice day in midwinter when we flew to Minneapolis. But, when we started back, it was 40 below zero. I had on all of the standard winter flying clothes, including a face mask plus extra underwear and shirts. We bucked a 40-mile headwind so we headed for Chicago to refuel.

"I never suffered so much for so long from the cold before we got to Chicago. The pilot would fly as long as he could stand it, then wiggle his stick—a signal for me to take over. His goggles would frost up and he couldn't see. So I would fly the plane while he defrosted his goggles and tried to thaw out a bit. Then I'd wiggle the stick for him to take over. When we got to Chicago, I was frostbitten inside the nostrils and on the cheeks. My thighs ached from the cold.

"We stayed overnight in Chicago. When I got up next day, I couldn't see very well. Then I realized what had happened. My eyeballs had gotten so cold that irritation had fogged over the corneas and caused temporary loss of vision.

"I kept thinking—suppose we were at war and I was in the gunner's seat in the cockpit. How could I shoot at my enemy? I was so numb from the cold that I couldn't have pulled a trigger. But I kept thinking that, even if I felt comfortable, how could I see the enemy if my goggles frosted up? Furthermore, my mittens were so big, how could I handle a machine gun? And I thought: If I were as cold in combat as I was on that trip, I would have welcomed being shot down. So there was a morale factor involved, too.

"I was a young punk and new in the service. But when I got back to Selfridge, I wrote to the Medical Chief of the Air Corps (Maj. Gen. Malcolm C. Grow) and told him all these things. I said: 'that's a heck of a way to fight a war—suppose we had to fight in Alaska and the enemy had (*Continued on page 79*)

The General also keeps his tractor in perfect running condition. He uses it around his 160-acre farmland.

As Air Force Surgeon General, he made it a point to visit hospitalized Air Force personnel throughout the world.

One of a series by Gaynor Maddox

A Sound Approach to Good Nutrition

NUTRITION, like the weather, affects everyone. Both are important to our health, happiness, and general well-being. But nutrition is more predictable and far more controllable.

Nutrition is a life science. It's everybody's business to profit by its know-how. "Tell me what you eat and I'll tell you what you are" makes physiological sense. Once you realize that every organ, every cell, every nerve in your body was once food, you will understand why a working knowledge of modern nutrition is good life insurance.

The better the bricks, the stronger the house. The better the food you eat, from infancy through old age, the better prepared your body is to grow normally, to repair itself, and to carry out a lifetime of physical activity. The better your body is built and the more efficiently its components function, the better you'll feel and look.

The premiums on this insurance policy are not high, nor is the coverage hard to obtain. For proof, let's go to the local supermarket. All the food you need for sound nutrition is displayed on the shelves, in the frozen foods cabinets, in the dairy section, the meat and seafood counter, and in the fruit and vegetable stalls.

But the layman needs also a road map to a nutritionally balanced diet. Food quackery is not nutrition. The faddist, through ignorance, superstition, or for commercial advantage, strives to limit consumption of food to certain offbeat items or overstresses the importance of one particular food.

His approach to eating is generally emotional, often neurotic, frequently hysterical. He is usually ignorant of or refuses to be disciplined by the findings of scientific research on the relationship between familiar foods and normal health. "Natural foods," "health foods," and foods with "magical" properties are the stock in trade of his harangue. Unfortunately, he gets a large, uncritical audience.

Biochemists and nutrition scientists, in universities, hospitals, and clinics, have discovered the chemical constituents of the body and their interrelations. Most researchers are in general agreement as to the amount of protein, vitamins, minerals, carbohydrates, and fat we need to grow, to stay healthy, and to resist disease.

All these essential nutrients are found in foods familiar to the American dinner plate. The U.S. Department of Agriculture has developed one food plan which translates the chemical essentials of a balanced diet into supermarket terms—as easy to follow as a daily grocery list.

The USDA plan is organized around four basic food groups—dairy products, meat-fish-eggs, vegetable-fruit, and bread-cereal. All healthy persons, no matter how old or young, active or sedentary, tall or short, can follow this road map.

How you eat them and in what combination is a matter of personal taste. Sound nutrition is not tyrannical. Although everyone should eat well, everyone need not eat alike. Adequacy, not conformity, is the code of good nutrition.

The vegetable-fruit group is an important source of vitamins—especially vitamins A and C—and minerals.

Here are the four food groups on which an adequate diet can be planned and the quantities recommended daily:

1. Dairy Products—some milk daily

Children	3 to 4 cups
Teen-agers	4 or more cups
Adults	2 or more cups
Pregnant Women	4 or more cups
Nursing Mothers	6 or more cups

Left: Beef stew with vegetables, citrus salad with cottage cheese, salad dressing, and buttered rolls—combine these with beverage and dessert for a nutritionally sound dinner based on foods from the four basic groups.

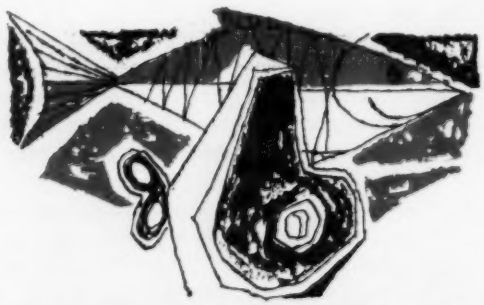
All the essential nutrients are found in foods familiar to the American dinner plate. The four-group plan is your easy, uncomplicated road map to good nutrition.

Milk is the best source of calcium, which helps build sound bones and teeth and helps muscles and nerves react normally. Cheese and ice cream can replace part of the milk.

2. Meat, Fish, and Eggs

Two or more servings of meat, poultry, fish, seafood or eggs (dry beans and peas and nuts can be used as alternates). This group is the best source of protein, the body-builder.

3. Vegetables and Fruits—four or more servings



Meat-fish-eggs group (two or more servings daily) provides protein, iron, thiamine, riboflavin, and niacin.

(a) A fruit or vegetable rich in vitamin C every day. (The body cannot store vitamin C for long periods.) Citrus fruits, such as oranges and grapefruit are the best source. Tomatoes, strawberries, raw cabbage, and broccoli are good sources. Vitamin C helps strengthen blood vessel walls and promotes faster healing of wounds.

(b) Deep green or yellow vegetables every other day if possible. These are good sources of vitamin A, which promotes clear skin and helps keep mucous membranes healthy. It helps prevent night blindness and also helps control bone growth.

(c) Other fruits and vegetables, including potatoes.

4. Bread and Cereals—Four or more servings

This group includes breads, breakfast cereals, rice, and macaroni products.

There's your road map to sound nutrition. It is specific and uncomplicated. Considering its importance to health and stamina, it should really be studied and memorized and followed, as one studies and memorizes the rules in the traffic book before taking a test for an auto license.

In fact, it applies to everyone every day of his life —from the time, as a child, he begins to eat regular food right through old age. That is why children might well learn these basic rules for good eating about the same time they learn their ABC's. Such basic understanding could prevent them from developing bad eating habits early in life, habits which too often become permanent.

Many of the nutrition problems of old people could be prevented if, in early life, they had learned good food habits. As age increases, they usually need less food, and particularly fewer calories, but no matter how long a person lives, his basic nutritional requirements remain about the same.

To get older people to follow an adequate diet is not always easy. Loneliness, frustration, budget worries, and the reluctance to make the effort to cook for themselves often explain their lack of interest in a good diet. They may fail to realize, or have not been encouraged to realize, the importance of good nutrition.

Menus for older people can be nutritionally balanced, adequate in calories, and tempting, yet so planned that preparation is easy. They can be adjusted to the minimum of kitchen space and equipment, lessening physical energy, the need for softer, easier-to-chew dishes, and a limited budget.

Overweight people, too, need all the essential nutrients. In most cases, they are fat because they have been eating more food than their bodies use to function. The unused calories pile up as fat—rarely attractively.

A calorie is the amount of heat required to raise the temperature of one kilogram of water from 15 to 16 degrees centigrade. In humans, a calorie is a measure of fuel that is needed for growth, repair, and physical activity.

Food, not starvation, is the basis of any effective long-range reducing diet. According to Fredrick J. Stare, M.D. Ph.D., chairman of Harvard University's Department of Nutrition, there is no such thing as a "fattening" food. It's the total number of calories in *all* the food you eat that counts. No single food is essential in any weight-control program, nor need any single food be forbidden. Eating too much is the overweight person's major problem.

Doctor Stare's often-repeated advice to fat people is, "Don't cut out, cut down." In other words, eat some of all the foods that supply the essential nutrients, but eat less of them.

Although the overweight, elderly, and those who lead sedentary lives should go easy on high-calorie foods, adolescent boys and girls and some men and women who do hard physical work may expend more energy and therefore need more calories than the others. Usually they can safely include liberal amounts of high-calorie foods in their diets—butter or margarine, fats, pie crust, candy, cake, spaghetti

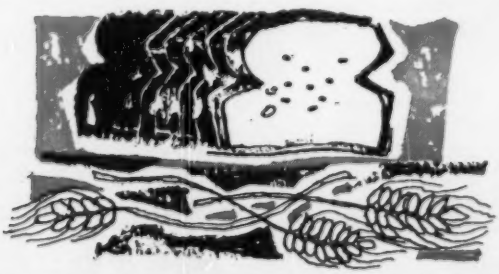
(all good foods despite their high calorie content). Because of the energy requirements of growing teenagers and very active adults, the risk of piling up unused calories is not as great.

A diet of approximately 3600 calories a day is normal for 17-year-old boys and very active adults. Although it includes more calories than the overweight, elderly, and sedentary could handle, it still must contain the same components required in lower-calorie diets.

These include protein, calcium, iron, thiamine, riboflavin, vitamin A, and vitamin C. Several other nutrients are also required, but diets which contain the recommended amounts of the seven listed generally supply adequate amounts of other essential nutrients as well.

Despite the great strides in nutrition based on outstanding research and clinical experience, and widespread educational efforts to give the general public a working knowledge of how to use our wealth of good food to build stronger bodies, insure health and greater stability, there are still many men, women, and children not taking full advantage of this life science.

Unfortunately, there are many roadblocks to good eating habits caused by early conditioning, prejudice, or emotional instability. A young child often follows the poor eating pattern set by his family, or because of family friction at mealtime, the child develops a resistance to the particular foods usually served. Or a child may have been told certain foods "don't taste good" or "make you sick" by ignorant and domineering parents. Such experiences develop negative reactions to normal food in children.



Bread-cereal group (including rice, macaroni) provides thiamine, niacin, iron, and some low-quality protein.

An emotional crisis can destroy a healthy appetite. We all know people who at times say they are too upset to eat, or lament that suddenly they are unable to swallow food.

Prejudice also often sits at the dinner table like a snatching wolf. Take the inland woman who refused to eat eggplant because it tastes like oysters, although she admitted she had never eaten an oyster. Or the teen-ager who, while enjoying a cherry ice cream soda at the fountain, warned her friends it is dangerous to eat cherries and milk at the same meal. Or the farm woman who refused to eat margarine because she feared it would cause hair to grow on her face. There are as many examples of this kind of prejudice as there are dried peas in a bushel basket.

Furthermore, some people deprive themselves of many delicious and nutritious foods simply because those foods are not familiar to them. By restricting himself to familiar foods only, one runs the risk of appetite boredom, with an unbalanced diet as a possible result.

Dairy products provide most of the calcium needed, and high-quality protein, riboflavin, and other nutrients.

What you eat should not be dictated by whims, warns biochemist Charles Glen King, president of the Nutrition Foundation and professor of chemistry at Columbia University. "Although enjoyment of eating is highly desirable," he says, "it represents only a momentary feature of the body's need for food. Unless the whims of appetite are supported by intelligence, both the physical strength and mental capacity of the individual are handicapped." This is true, he adds, from infancy to old age. END

FOR FURTHER READING

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by HANK BRADSHAW

Top 10 Happy Hunting Grounds

A veteran outdoorsman lists his favorite game bird spots, along with some inside tips on how to bring back the limit.

IF SOMEONE picked out 10 different kinds of game birds, and told you that you could go hunt them any place in the United States or Canada, you would —if you were the kind of bird hunter I am—jump up and down with joy, wouldn't you? But what if you were told to select only one spot for each variety of bird, and to make it good because you couldn't hunt that particular bird anywhere else? What 10 places would you pick? For pheasants, ruffed grouse, geese, ducks, quail, Hungarian partridge, turkey, sharptail grouse, crows, woodcock?

You see the pickle I'm in? TODAY'S HEALTH asked me to do this. Now I am faced with so many tough choices, I'm in a dither. I never realized until now how good I've had it—all of the wonderful shooting experiences of my life come flooding back when my memory beckons. A montage of feathers flying, of blue autumn skies, grain fields turned yellow, an invigorating bite to the wind, the kick of a shotgun against my shoulder, and the comfortable companionship of a good dog.

But imagine trying to decide whether I like Bob White quail shooting best in Iowa or Missouri or Tennessee or Alabama or Florida or Louisiana or Mississippi. Or whether I have more fun shooting pintails in the shallow lagoons off the Texas Gulf Coast than I do when the mallards come down the Missouri River or the Mississippi, or when they sideslip through the pin oaks of Arkansas. I like them all!

Guess that's why I'm so healthy. I've breathed whole trainloads of clean, fresh air in a lot of clean hunting country. I've built spring in my step by walking several thousand miles—and I'll walk more thousands—trying to find sharptail and ruffed grouse and Hungarian partridge and red cock pheasants.

For downright perfection in sharptail grouse hunting, go to prairies of Alberta or southwestern Saskatchewan.

South Dakota is nation's No. 1 spot for ringneck pheasants. Fields are huge, so you'll need a good retriever.

Mallards feeding in nearby grain fields make the Missouri River bottoms one of the nation's top duck hunting spots.

It's a lot like my doctor said: "Just getting outdoors is good; hunting makes it that much better. When I've had all I can take for awhile of human aches and pains, I go hunting. I come back with zip. And I also have something exciting to talk about with my patients."

As for my personal problem—selecting 10 favorite spots—it's sort of blindman's buff: Shut your eyes and take your pick. Here are my choices of where to hunt 10 different kinds of birds. I may have found hunting *just as good* someplace else, but I've never found any that was better.

Pheasants. This one was easy. South Dakota is admitted by almost everyone to be the number one spot in the nation for ringnecks. You'll find good hunting in Iowa and Nebraska, but you won't see as many pheasants as South Dakota offers. One thing, though—stay away from the heavily-hunted eastern sections, where there aren't enough fields to take care of all the out-of-state hunters. Farther west, around Winner, and in the north, around Mobridge and Herreid, there are pretty nearly as many fields as hunters.

You should have a good retrieving dog, and a party of six to 12, because South Dakota fields are huge, giving pheasants all the opportunity they need to

Good work by a retriever means that few if any crippled ducks are lost.

Best turkey hunting is in the brush country of East Texas. Hunters locate birds' runway, build a blind of windfall timber alongside it, and wait there at sunrise.

Along Missouri River near Onawa, Iowa, hunters have seen thousands of ducks attracted to set of decoys.

circle your "drivers" in a corn or milo field unless you string out in a pretty long line. It pays, too, to have a couple of your party "block" at the other end of a field, to cause the birds to flush instead of running out ahead of the drivers. Sloughs also are good bets to hunt. If you aim for the season opening (about October 17), get into your headquarters town a day ahead of time to line up a farm or two.

For information about when the season opens where, and for how long, and the different bag limits (you can shoot 25 birds in five days in some counties, 20 in others), write Chuck Griffith, public relations director, State Conservation Commission, Pierre, South Dakota.

Geese. Now there's a lulu! Geese galore everywhere and I must pick one spot. Horseshoe Lake, at Cairo, Illinois, is notably excellent, particularly for Canadas. I've had some fine Lesser Canada shooting near Corpus Christi on the Texas Gulf Coast. And out on western Nebraska's North Platte River, near Lisco and Broadwater, where Canadas come, too. I've always nursed a hidden desire to hunt them around Chesapeake Bay. And I've been so excited over Blues and Lesser Snows on the Missouri River near Onawa, Iowa, that I wore myself out just being excited.

But for goose hunting like no other, I vote for Swan Lake, in northern Missouri.

Swan Lake is part refuge, part public shooting ground, and hunting is controlled by a combination of the Missouri Conservation Commission and the U.S. Fish and Wildlife Service. So many blinds and pits, so many hunters per day. Reservations (two days only per person per season) are made by mail before the season opens, then daily drawings are held for unclaimed reservations. Write Swan Lake Public Shooting Area, Sumner, Missouri, giving a preference of dates, but don't be too fussy—take what you get.

Here's what I found there: Canadas by the thousands, many blues and snows, a few whitefronts—every goose that migrates on the central flyways uses Swan Lake. I've had them light in my decoys, very nearly light on my head when I was exposed taking pictures. If you hunt here, a good goose call—and a well-practiced know-how—comes in mighty handy. You can rent decoys at the headquarters building.

Ruffed grouse. Best timber grouse shooting I ever

To hunt crows, find a roost. A quarter of mile away, set up simulated battle between stuffed owl and crow decoys. Then use crow call to lure birds within range.

There's no limit on crows, nor any value to the black bandits. It's strictly a shooting sport. This impressive bag was result of a few hours' hunt in Oklahoma.

had was around Blackduck, Minnesota, along the old logging roads. The "partridge" come out of the woods to eat the tender shoots of grass between the ruts. They sit erect and watch you approach, are easily seen. When they take off, the birds make sporting targets as they duck and dart through the woods. Clearings in timber are good spots, too. Early morning and late afternoon are best times. In Blackduck, everyone hunts grouse, from grandmothers on down. Write to the Chamber of Commerce for a list of resorts and guides.

Ducks. I could go on and on about good duck hunting areas, but I'd end up back on the Missouri River, near Onawa, Iowa—where I've hunted every season for 24 years. Here I've seen ducks by the thousands attracted to a set of decoys. Not every day, mind you, although you'll seldom get skunked. But hit the southbound flight right, or catch mallards when they are working back north as snow melts after a blizzard has scared them south—they'll be feeding on waste grain in nearby fields—and you're in for some swell shooting.

The Missouri is no longer as fast and dangerous as it once was, but it's still no picnic to handle if you don't understand it. Good hunting sites usually are claimed by hunters who know the locale and build their blinds pre-season, so it usually pays to rent blind privileges from commercial hunters.

They'll meet you at your hotel or motel, take you to the river by car, then by boat to the blind—usually on a mid-river sandbar—and, if you like, may even stay and call the ducks for you. (Calling ducks on a wide-open, windswept river is a lot different than on a protected marsh or wooded area.) For guides and hunting sites, write to Ralph (Bogie) Jones, Jones Sporting Goods Store, Onawa, Iowa.

Another exceptional duck hunting area is that around Corpus Christi, Texas, in the pintail paradise. Both fresh-water ponds and the shallow salt-water coastal bays afford fine shooting. Guides will take you out in boats powered by wind machines or shallow-draft outboard boats. They furnish decoys.

Look up George Strickhausen at Aransas Pass, and he'll steer you to the birds, either on Laguna Madre or Redfish Bay. He also runs a big duck hunters' motel, the Salt Lake Hunting Club.

If you're a West-Coaster, the country around Colusa, California, will provide close-to-home shooting.

Turkey. Plantings of this exciting game bird are bringing back a sport that was disappearing. Good hunting now may be found in the Black Hills of South Dakota, in Louisiana, Georgia, the Carolinas, Mississippi, Missouri, and other southern states, on both public shooting preserves and private farms. Florida, with its three million acres of public hunting lands, is good, too.

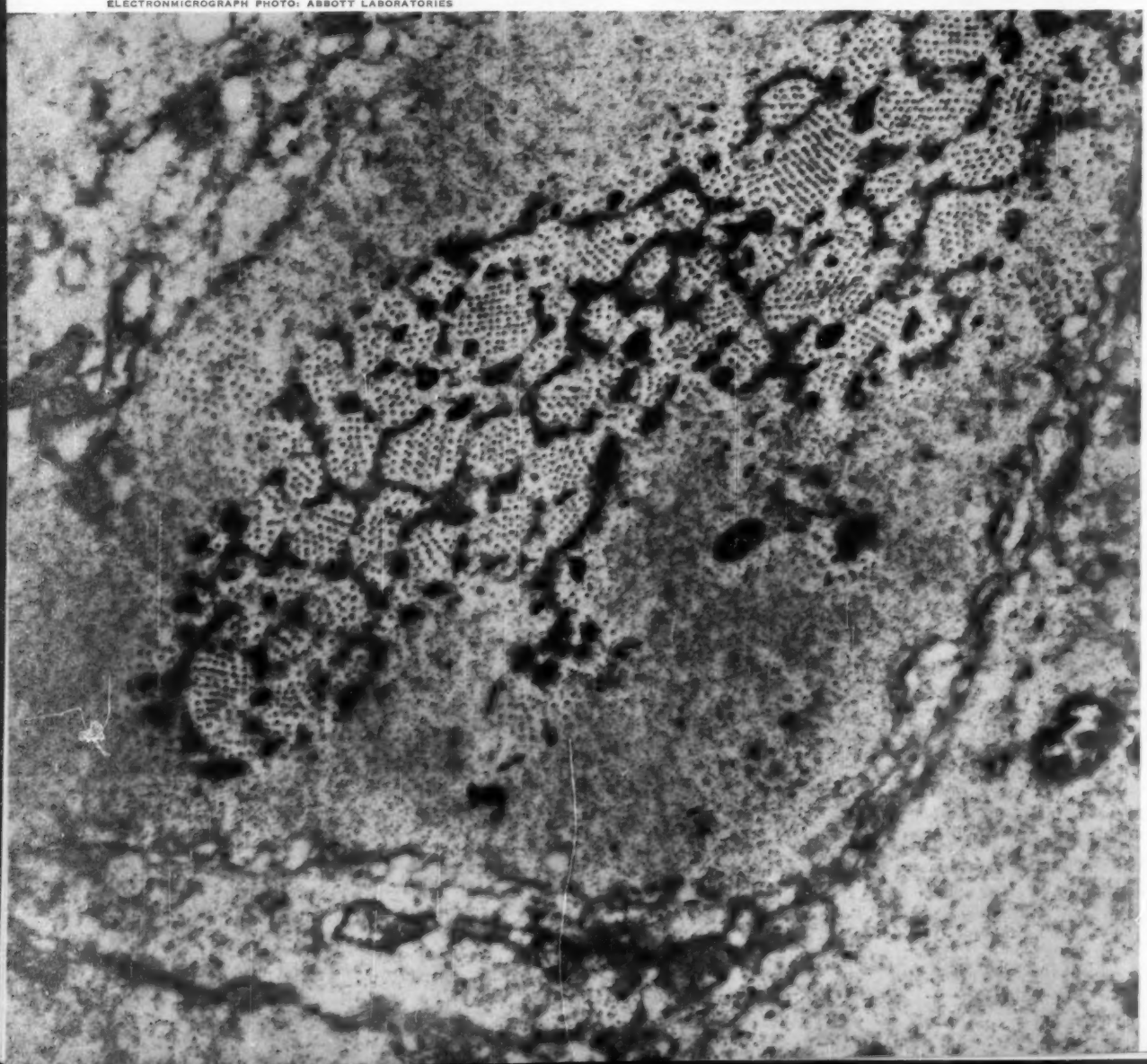
I had luck around Fairfield, in the brush country of East Texas. Since the birds were re-established here a few years ago, farmers and ranchers rent out hunting privileges, usually through a central sportsmen's office in town. We had our best luck by first discovering the time turkeys were using a certain area or "runway," then (*Continued on page 62*)

by J. D. RATCLIFF

They're Closing In on the Common Cold

British researchers have managed to control a cold virus in the laboratory. They have come up with a new substance, called interferon, that successfully fights viruses.

A virus—the oblong shape peppered with dots—associated with respiratory diseases, is pictured inside a kidney cell.
ELECTRONMICROGRAPH PHOTO: ABBOTT LABORATORIES



IN THE PRETTY little cathedral town of Salisbury, England, a group of scientists is hot on the trail of a preventive and cure for the most widespread and costly of all diseases—the common cold. In America alone, the half-billion colds which strike each year cost an estimated five billion dollars in drug and doctor bills, in lost time and lost production. According to past records, in November, 30 million people will be going through the sniffling miseries.

It is not too much to hope that the end of such misery may be in sight.

In the past 36 months, British researchers have, in effect, put the disease in a test tube for concentrated study. Along with other accomplishments, the British scientists have made strides toward a vaccine, and have come up with a substance which may well be the greatest medical breakthrough since penicillin. Penicillin and other antibiotics are active mainly against bacteria. The new substance, interferon, fights viruses. If early promises are realized, from it could come the pill that swiftly cures colds, flu, polio, measles, mumps, and a host of other virus diseases that plague both the animal and the human world.

Work of Britain's Common Cold Research Unit got under way in 1946 in an unprepossessing setting. In 1941, Harvard University and the American Red Cross presented wartorn Britain with a completely staffed hospital for study of communicable diseases —a major problem in jam-packed air-raid shelters. Twenty-two prefab buildings, plus a scattering of Quonset huts, went up on the rolling farmlands outside Salisbury.

WHEN America entered the war, the U.S. Army took over, and Harvard Hospital became the medical research center for the European Theater. At war's end the property was handed over to Britain's Medical Research Council to make whatever use it wanted of the property. Sir Christopher Andrewes—world-famed researcher, discoverer of the first flu virus—decided that Salisbury should become the focal point of the biggest assault ever launched against the common cold.

Problems facing the team he assembled were formidable. Beyond doubt the cold was one of the most wily, baffling disease problems ever to confront researchers—far more difficult than polio, infinitely more complex than tuberculosis. The man in the street might think he knew what a cold was, but research men weren't sure that *they* did.

A great deal, of course, was known about its behavior pattern. It spread person to person. The disease appeared in three annual waves—at the opening of school, with the advent of cold weather, and with the first glimmerings of spring. But the really important links in the chain were missing.

No one had ever seen the virus or viruses which caused colds. There was, indeed, only indirect evidence of their existence. A German researcher, for example, had taken nasal washings from people sick with colds and filtered them to strain out all bacteria. Then he sprayed the filtrate into the noses of well people. They came down with colds. This at least indicated to investigators that bacteria weren't responsible.

Working on such a shaky platform of fact, research men had made almost no progress toward prevention or cure. No known cold remedies stood up to really critical testing. In a sample experiment, a large group of people were given tablets which they were told would prevent colds. Over a third reported excellent results. The tablets were valueless milk sugar. Often, old wives' tales provide helpful tips for research men. Not so with the cold. Plenty of fluids during colds? "Apparently based," said one research man wryly, "on the fact that no one ever saw a fish sneeze." Fatigue? At the University of Illinois volunteers were kept awake 56 hours. Efforts to give them colds were no more successful than among well-rested people.

A major stumbling block to cold researchers was the fact that most laboratory animals resolutely refused to catch the disease. So did some unusual animals—ferrets, pigs, even hedgehogs. So far as researchers knew only one animal, the chimpanzee, is prey to man's wheezy misery. And chimps were expensive, hard to come by, and hard to handle. In the face of such discouraging facts, Doctor Andrewes took a bold step. He would endeavor to use research "animals" never before used on a large scale: human volunteers.

The prefab buildings were partitioned off into small, comfortable apartments. Via press and radio, Andrewes asked for volunteers who would agree to spend 10-day isolation periods, living two to an apartment. Hot meals would be left at doorways in vacuum jugs. There would be a free bottle of beer a day, a three-shilling daily allowance, books to read, and a radio to listen to. Via telephone they could play chess or darts with other volunteers. To date, upwards of 7000 persons have stepped forward—students studying for exams, poets and novelists seeking solitude, tired mothers, even honeymooners.

IN return for their free "vacation," volunteers agreed to a set research ritual. For four days they would be under observation by masked and gowned doctors—to be sure they had brought no colds with them. Earlier work had (*Continued on page 84*)

GLOVES

by GAYNOR MADDOX

Ham Has Infinite Variety

Broiled, baked, in a casserole, an hors d'oeuvre, a sandwich, or even a pie—this versatile favorite is limited only by your imagination.

COLUMBUS brought eight pigs to the New World. Spices from India soon followed. These two have ever since been closely related in the American diet.

Rich in protein, high in thiamine, ham in its various forms is one of our most popular meats. You can get it bone-in (with an eye on split pea soup later), skinless, shankless (shank removed and meat skinned and trimmed of excess fat), semi-boneless, boneless, boneless and skinless shaped into rolls, and canned hams, also boneless and skinless.

Most hams sold today are of two kinds: fully cooked or to be cooked before eating. The fully cooked can be eaten cold without further cooking. However, a little reheating seems to improve their flavor. Canned hams also are fully cooked and can be served as is, or reheated. Canned European hams have a milder cure than ours.

The cook-before-eating style hams must always be cooked before serving. So must the so-called country-style hams, which are heavily cured. They usually require soaking and simmering in water before baking.

A particularly good way to prepare a well-cured and well-aged country ham is to cover with cold water with a pint of pineapple juice added, together with 1 tablespoon dry mustard. Bring water to boiling point and simmer 18 to 20 minutes per pound, keeping ham covered with the water all the time.

In New England and in many other parts of the country, boiled ham is preferred to the baked. Canned hams are of the boiled, not baked, type.

How to Cook and Glaze a Ham

The type of ham selected determines the method of cooking it. Regardless of the type, follow tag or label directions. If there are no directions, cook as directed here.

Place ham, fat side up, in a shallow roasting pan. Insert a roast meat thermometer into the thickest part of the ham. Do not cover or add water to the pan, and do not baste. Place in a slow oven (325°F) and cook following the directions in the chart on page 52.

Thirty minutes before the end of the heating or cooking time, remove ham from the oven. Although most hams come without

Left: Spiced honey glaze, mustard, cloves, and brown sugar combine to produce piquant perfection in this whole canned ham which has been sliced before baking.

Cranberry Ham Bake: center slices team up with tart berries to tempt hearty appetites.

Luncheon Casserole: easy to make with diced ham, mixed vegetables. Top with corn bread.

TIMETABLE FOR ROASTING HAM					
MEAT AND CUT	WEIGHT	OVEN TEMPERATURE	APPROXIMATE ROASTING TIME		MEAT THERMOMETER READING
			Minutes per pound	Total time	
Fully cooked:					
Canned Ham	8 to 13 pounds	325°F.	10 to 15 minutes	2 to 2¼ hours	125° - 130°F.
	4 to 6 pounds	325°F.	15 to 20 minutes	1¼ to 1½ hours	125° - 130°F.
Ham, boned (rolled)	3 pounds and over	325°F.	12 to 15 minutes		125° - 130°F.
Ham, half	6 to 8 pounds	325°F.	14 minutes	1¼ to 1¾ hours	125° - 130°F.
Skinless, shankless	6 to 8 pounds	325°F.	20 to 25 minutes	2¼ to 2¾ hours	125° - 130°F.
Ham, whole	10 to 12 pounds	325°F.	10 minutes	1¾ to 2 hours	125° - 130°F.
Uncooked:					
Ham, half	6 to 8 pounds	325°F.	24 to 27 minutes	2¾ to 3¼ hours	155° - 160°F.
Ham, whole	10 to 12 pounds	325°F.	20 to 25 minutes	3½ to 4 hours	155° - 160°F.
Ham Slice, 1½ inch	2 pounds	325°F.	30 to 35 minutes	1 to 1¼ hours	

rind, some may still have rind. If so, cut the rind away, being careful not to cut away the fat. With a sharp knife, score the fat crisscross fashion, making cuts about ⅛ inch deep and ¾ inch apart. If desired, push a whole clove in the center of each diamond. Spread glaze over the ham. Return ham to oven 20 to 30 minutes more. *Note:* Baked peeled sweet potatoes may be placed around the ham and glazed at the same time.

There are almost as many ways to glaze a baked ham as there are people to relish it. Some methods are very simple, such as that of Ruth Patterson of Davidson, North Carolina, probably one of the best ham cooks in the country. She always uses this glaze: Make a paste of dry mustard, brown sugar, and a little vinegar. Then spread it over the ham for the last baking period.

Acorn squash stuffed with diced ham and tart cooking apples makes a satisfying main dish for cool fall days.

A combination of genuine maple sugar or syrup and dry mustard is another suggestion. Some ham fanciers like a glaze of brown sugar combined with honey and ground cloves. Others vote for a glaze made of fruit preserves or marmalade. Cranberry marmalade, made of oranges, lemons, and fresh cranberries, is also delicious. So is a mixture of honey, lemon juice, and aromatic bitters.

Corn syrup makes a popular glaze. Combine 1 cup of dark corn syrup, 1 2-inch stick of cinnamon, and ½ cup orange juice in a saucepan and bring to a full boil over moderate heat. Remove cinnamon stick. Spread on ham.

Many cooks spread only half the glaze over the ham, and bake another 10 minutes. Then they spread the remaining glaze on the ham for a final 10 minutes of baking. This method, they claim, gives a deeper glaze.

Spiced Baked Sliced Canned Ham

6- to 8-pound canned ham
Whole cloves
⅓ cup strained honey
½ teaspoon ground cloves
1 tablespoon prepared mustard
1 tablespoon brown sugar

Have butcher run the whole ham through his meat slicer, setting the gauge on the machine for slices of the thickness you wish (⅛ to ⅜ inch). Have him push slices together; then tie string securely around sides twice, once around top and bottom. Keep refrigerated until ready to bake. Press whole cloves in several rows or in a pattern on top of ham. Place on a rack in a shallow baking pan. Mix

together honey and ground cloves. Spoon about 1/3 of honey over top and sides of cut ham. Bake in a moderate oven (325°F.) about 1¼ hours. After first 30 minutes of baking, brush again with half of remaining spiced honey. Continue baking another 30 minutes. Add mustard and brown sugar to remaining honey. Brush over top of ham. Continue baking 15 minutes or long enough to have a golden glaze. Serves 18 to 24.

It is an ancient and honorable tradition to serve prepared mustard with both hot and cold ham. There are several kinds commercially bottled—the bland, the sharp, and the creamy. But you can easily prepare your own sauces, combining spices and fruits or vegetables into smooth and tangy recipes that give the sweetness of ham an extra fillip.

Raisin Sauce

¼ cup seedless raisins
⅓ cup brown sugar
1½ tablespoons flour
½ tablespoon dry mustard
1¾ cups boiling water
2 tablespoons lemon juice
1 teaspoon grated lemon peel
1 tablespoon butter
⅛ teaspoon each of salt and pepper

Wash raisins and cover with boiling water. Soak 15 minutes. Mix dry ingredients. Add water and lemon juice gradually, stirring well. Simmer slowly 10 minutes. Add raisins and lemon peel. Stir. Add butter. Serve hot. Yield: 2¼ cups.

Raisin-Cherry Sauce

¾ cup seedless raisins
1½ cups hot water
3 tablespoons flour
2 teaspoons sugar
½ teaspoon cinnamon
¼ teaspoon ground cloves
¼ teaspoon dry mustard
⅛ teaspoon salt
2 tablespoons cider vinegar
¾ cup cherry preserves
3 tablespoons butter or margarine

Combine raisins and water. Let stand 10 minutes. Meanwhile, melt butter in saucepan. Add flour, sugar, spices, mustard, and salt. Blend together. Add to raisins with water and vinegar. Bring to a boil over medium heat, stirring constantly. Cook 2 or 3 minutes until thickened. Add cherry preserves. Keep over heat until hot through. Serve hot over ham slices. Makes 2½ cups.

Sour Cream Raisin Sauce

½ cup raisins
2 cups commercial sour cream
½ teaspoon salt
2 teaspoons lemon juice
1 tablespoon prepared horseradish

Pour hot water over raisins and let stand 5 minutes. Drain well. Combine with remaining ingredients. Chill and serve. Yield: 2 cups.

Cucumber and Sour Cream Sauce

Combine 1 cup commercial sour cream and 1 teaspoon Worcestershire sauce. Pour over 1 thinly-sliced cucumber. Chill before serving. Makes about 2 cups.

Mustard Sauce

2 teaspoons corn starch
1 tablespoon dry mustard
¾ teaspoon salt
1½ teaspoons sugar
2 tablespoons vegetable oil
⅔ cup milk
1 egg yolk
1 tablespoon vinegar
Few grains cayenne pepper

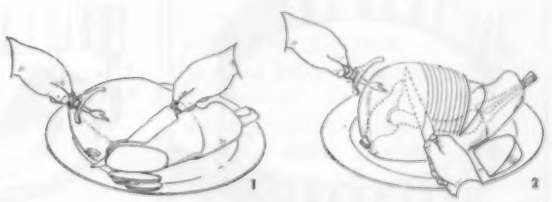
Measure corn starch, dry mustard, salt, sugar, and cayenne pepper into small saucepan. Add oil; blend well. Gradually add milk. Cook over low heat, stirring constantly, until mixture thickens and comes to a boil. Remove from heat. Combine egg yolk and vinegar; gradually stir into cooked mixture. Return to heat and cook 1 minute, stirring constantly. Serve hot or cold. Makes ¾ cup.

With a little bit of luck and a little bit of ham, you can produce many delicious combination dishes. Diced, cubed, or minced, cooked ham becomes a magical ingredient in luncheon and dinner main courses.

Ham and Egg Salad Sandwich Filling

2 hard-cooked eggs, chopped
2 cups ground cooked ham
1 cup diced celery
½ cup mayonnaise combined with 2 tablespoons dry mustard
2 tablespoons sweet pickle relish
3 tablespoons chopped green pepper

(Continued on page 77)



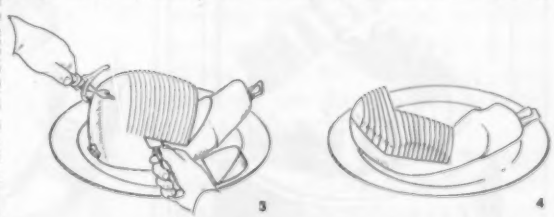


CHART: NAT'L. LIVE STOCK & MEAT BOARD

How to carve a ham: (1) Insert fork in large end. Cut two or three slices parallel to ham's length from less meaty side. (2) Rest ham on cut surface. Cut small, wedge-shaped piece from shank end, then begin slicing down to bone. (3) As slices are cut, remove by cutting along bone at right angles. (4) Turn balance of ham to original position, fat side up, and cut slices at right angles to bone. These will be smaller but just as tasty.

Pierre Fauchard

Father of Modern Dentistry

Dental educators throughout the world today still discuss the ideas which he first put in writing, and which remain the inspiration of scientific dentistry.

PROBABLY no single individual in the history of dentistry exerted a stronger influence upon its develoment than Frenchman Pierre Fauchard.

More than 200 years ago, Fauchard wrote the first dental textbook, *The Surgeon Dentist.* It is called the book that made dentistry a profession.

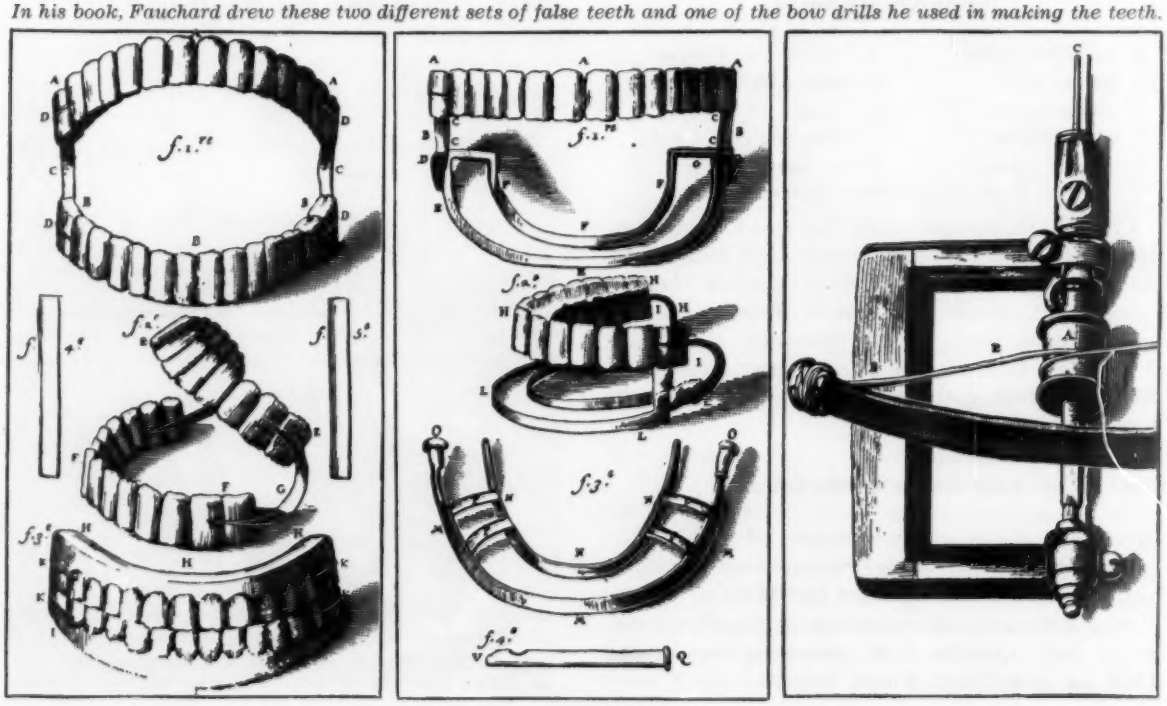
On the cover page he described his works. He called the text "A treatise on the Teeth in which is seen the means used to keep them clean and healthy, of beautifying them, or repairing their loss, and remedies for their disease and those of the gums, and for accidents which may befall the other parts in their vicinity."

The book set forth all of the dental knowledge of his time and anticipated in almost every field the routine procedures of modern dentistry. He was the first to publish an orderly, scientific presentation of dental techniques. Through him, modern dental literature was born.

It is thought Fauchard's early dental education was obtained in 1693 when he was an apprentice to the surgeon-major in the French Navy. He died at the age of 83 in 1761. Last July, his death was commemorated by an international gathering of dentists.

Fauchard dedicated himself and his work to the tradition of the healing professions—that all professional knowledge must be shared in common for the service of suffering humanity. END

In his book, Fauchard drew these two different sets of false teeth and one of the bow drills he used in making the teeth.



The Clean Look You Like

GROOMING GUIDE FOR TEENS

WHEN you're a teen-ager, it's not always easy to figure out how you can look your very best. This is the time of life when you're most sensitive about your appearance. Many boys and girls of high school age are much more self-conscious than they need to be simply because they let themselves become careless about their grooming. They worry, perhaps subconsciously, about a lot of little things—their nails (which they meant to take care of the night before, but didn't); specks of dandruff on their shoulders (which are there because they didn't shampoo often enough or didn't brush their hair properly); their complexions ("Is acne unavoidable?").

No one can be poised and at his best with all these nagging little worries. And in a trying situation, such as meeting new people or applying for a job, any one of these problems can throw a guy or a gal into a tizzie.

The very first thing any self-conscious teen-ager should do is to make it a habit to keep himself perfectly clean at all times. Only then can he

by William R. Vath

Just knowing you're well groomed puts you at ease, gives

forget about himself and be at ease with others. This means that from the soles of his feet to the end of every one of the 120,000 hairs of his head, the teen-ager should be fresh, neat, and attractive.

Freshness demands that there be no hint of perspiration odor. From adolescence on, everyone perspires, normally exuding from two to three quarts a day, and much more under physical, emotional, and nervous stress. Perspiration itself is odorless, but when it remains on the skin, certain bacteria decompose it to produce unpleasant odors.

Bathing with soap and water helps keep the body clean and free of the bacteria which are the basic cause of body odor—hence the importance of *frequent* bathing. How frequent? Dermatologists hesitate to suggest one rule for all persons, but once a day is a good minimum for teen-agers. When you engage in strenuous physical activity (such as in gym class), you should bathe more than once daily —preferably immediately after physical exertion.

TO get the most out of a bath, every part of the body should receive individual attention. The folds and creases need special care, since perspiration and air-borne dust accumulate in these areas. Particular attention should be given to the regions in front of and behind the ears and to the armpits, the genital and anal areas, and the toes.

Dermatologists offer these pointers to teens who have no special skin problems:

1. If possible, use soft or softened water for bathing. In hard water, soap may cause a feeling of dryness and itching. Bath salts containing softeners are effective.

2. Medicated soaps aren't necessary except on the advice of your physician.

3. Use plenty of water, preferably lukewarm, for rinsing. Be sure to flush away all traces of the soap.

4. Don't massage soap into the skin unless advised to do so by your doctor for a specific reason.

No matter how thorough or frequent, a bath alone won't prevent perspiration or its odor. Thus you'll want to supplement bathing with a deodorant or an anti-perspirant. A deodorant neutralizes odor; an anti-perspirant, at the spot where it's applied, reduces perspiration for several hours. Sometimes the two actions are combined in a single preparation.

Complexion care is probably of even more concern than bathing to teen-agers. Every teen worries about skin blemishes, although most adolescent skin disorders are temporary. During puberty and adolescence, skin eruptions appear and disappear regularly in both sexes, due, at least in part, to the speed-up in the secretions of the hormones of the endocrine glands.

In the care of your complexion, soap and water are your best friends. Regular, thorough, and conscientious washing is a safeguard against skin blemishes. Wash your face as often as you need to keep it clean and clear—before bed, in the morning, after gym or other exercise, and (for girls) always before applying fresh make-up for an evening date.

THE most common complaint among teen-agers is acne, with its blackheads, pimples (uninfected red bumps), and pustules (infected, pus-containing lesions). Though the face is most often involved, all of these manifestations of acne also may occur on the neck, shoulders, back, and chest.

Blackheads are the first stage of acne. They are plugs of retained and dried oil secretions and accumulations of dead skin cells from the mouth of the skin's oil ducts. When these tiny, oat-shaped plugs block the oil glands, acne results. Because of chemical reasons, the exposed ends of the plugs blacken, thus the name "blackheads."

Proper washing removes these oily secretions before they can clog the pores; it also keeps the skin free of surface dirt. Blackheads are more prevalent in persons with oily skins; such persons should be especially vigilant about washing their faces frequently.

Blackheads and pimples should be handled with respect. Pinching, squeezing, and digging to extract the plug may injure the tissues underneath. This injury alone can produce permanent shrinkage or pitting of the area and may cause infection.

THE best preventive measure against pustules again is soap and water—to minimize the chances of bacterial infection. Pustules should never be squeezed; this can force the infected substance inward, where it is carried by the blood stream to nearby vulnerable areas (brain, eyes, ears). If pustules persist, see your doctor.

Cleanliness is the first step in controlling acne. Toilet soaps are efficient cleansers, and many dermatologists recommend nothing stronger. Special soaps are needed only when prescribed by a physician. Dermatologists often recommend gentle massage of the face with soap and hot water, using the finger tips, for five to 10 minutes. Rinse with cool water and blot dry with a soft towel.

Self-medication is wasteful and frequently harm-

you a wonderful feeling of self-assurance

ful. The indiscriminate use of salves, ointments, and lotions can irritate an already sensitive skin. Regardless of advertising hoopla, there is no ready-made patent medicine that can be expected to do much good in curing, or even relieving, acne in everyone who may have it.

Some foods aggravate acne. Nuts, chocolate, and fried and greasy foods have been implicated. Intake of these items should be reduced. However, before imposing rigid dietary restrictions because of acne, check with your doctor, who will make sure you get all the foods necessary for general good health. Physicians especially stress the value of a diet high in fruits, meats, and vegetables.

Most teen-agers must expect some skin blemishes and accept them as normal. These eruptions may seem unsightly, but cleanliness and a well-balanced diet will go far to prevent troublesome complications. In time, the skin adjusts itself to the inner changes of adolescence and the eruptions disappear.

IN the meantime, keep your fingers away from your face; avoid all mannerisms that involve hands on face. Girls should avoid the use of medications and cosmetics which shut out air from the skin. These include ointments, creams, and such products as powder bases and pancake make-up.

For those teens overly concerned about their complexion—or if an unusual number of blemishes constantly appear—the best advice is to consult a physician and be guided by his recommendations.

Care of the hair and scalp is another important aspect of good grooming. Good care is not complicated. It requires only these few ingredients: regular shampooing, a comb and a brush, and a timely trip to the barber shop or beauty parlor.

Hair should be shampooed as often as needed. Once a week is usually recommended, but hair can be washed more often with perfect safety. People with oily hair and those exposed to city dirt or unusually active physical exertion may find it necessary to shampoo twice or three times a week.

Before wetting your hair, brush it free of all tangles (this also removes surface dirt). Next, wet hair thoroughly and use plenty of lather. Massage scalp, using finger tips rather than nails to avoid scratches. Rinse hair, then lather and massage a second time. Be very careful in the final rinsing to remove *all* traces of suds.

Blot hair dry to prevent tangling. Avoid brisk rubbing; the tensile strength of hair when wet is considerably lessened and rough handling can break

Today's teen-agers are quick to learn that the first essential of good grooming is cleanliness, and from head to toe try to be fresh, neat, and attractive.

Clip and retain in notebook for future reference

it. If you use a dryer, regulate it carefully to avoid overheating, which will make the hair dry, brittle, and easy to damage with a comb or brush.

Girls should brush their hair twice daily, starting from the roots and stroking toward the ends. Keep your brush and comb clean by washing them frequently in warm, soapy water to which a very small amount of spirits of ammonia has been added.

DON'T be overconcerned about dandruff. Everyone has it. The typical case of dandruff is not a disease; it simply represents the normal shedding of the upper skin layers of the scalp. When dry, these flaky scales drop to the shoulders and can be very conspicuous on dark clothing. As a rule, you can control, if not entirely eliminate, dandruff by keeping your scalp clean with daily brushings and regular shampoos.

Stubborn cases of dandruff, especially if they cause crusting, itching, and inflammation, require special measures prescribed by the family physician. Don't attempt self-treatment. This type of dandruff is called seborrhea and is thought to be a disturbance of the sebaceous glands.

When it comes to hair styles, girls should distinguish between what is appropriate for school and what is suitable for dates. Short or medium hair length, worn in a simple style that is easily cared for, is usually most suitable for school. Such a style looks neater, may be kept cleaner, doesn't require extensive morning or evening care, and withstands the rigors of physical activity.

Boys, too, can improve their over-all appearance by choosing hair styles best suited to their individual traits. For example, a crew cut is best for a boy whose hair is of coarse texture; fine-textured hair should be worn in a pompadour, relatively short. For a round-shaped head, the hair should be of medium length at sides and top.

Many teens, both boys and girls, lavish hours on the care of their hair, yet neglect their hands, which are constantly on view and which betray neglect very quickly.

HANDS should be washed frequently—every morning and evening, before each meal, after each use of the bathroom, and, of course, every time they are dirty. Scrub hands with a brush while bathing, and push the cuticle back with a towel or a cuticle stick to prevent painful hangnails.

Both boys and girls should manicure their nails at least once a week. Short nails are most appropriate for the active life teen-agers lead. If you break a nail, file it smooth immediately. For school wear, girls should use either a colorless nail polish or use a buffer to bring out the natural gloss. If color is used for dates, it should be removed as soon as it begins to chip.

For many young people, care of the feet is an overlooked phase of grooming. Frequent washing and the wearing of clean sox are of utmost importance in controlling offensive odors and preventing irritation and infection. (There's an additional practical consideration for girls: Stockings are less likely to snag if they are pulled over smooth, well-groomed feet.)

Whether you tub or shower, soak your feet and scrub them well. Dry thoroughly between the toes to help prevent athlete's foot. This condition, caused by a fungus that seems to thrive on dampness, is a fairly common problem of young people. In its initial stage, cleanliness and dryness (use talcum between the toes and dust a little into the socks) usually prevents the disease from spreading. If it fails to subside and causes burning and itching, the victim should seek immediate medical advice.

A weekly pedicure should be part of every teen-ager's grooming schedule. Cut toenails straight across. Cutting too far into the corners encourages ingrown toenails. Massaging the heels with oil will offset flakiness and dryness. Right after a bath, while the skin is still soft, use a wet pumice stone on callouses and other rough spots.

A final, and very important, aspect of good grooming is proper mouth hygiene. Ninety-eight percent of all Americans suffer tooth decay at one time or another. At age 16, the average youth has seven decayed, missing, or filled teeth. More than nine out of 10 high school students have dental decay.

These shocking statistics are due in large part to failure to observe two simple rules: (1) Keep the teeth thoroughly clean, and (2) See your dentist regularly.

Ideally, we should brush our teeth immediately after eating, every time we eat. This isn't always possible, but no one has an excuse to skip regular morning and evening brushings. Careful brushing loosens and flushes away tiny particles of food that are caught between teeth. This contributes to a fresh, clean breath and helps prevent decay.

Good mouth hygiene also requires regular visits to the dentist for removal of tarter, which, in spite of conscientious brushings, tends to accumulate on teeth and which acts as a cover for bacteria. Regular visits also enable the dentist to detect cavities early when treatment is most effective. END

NEXT MONTH: More about acne, an affliction of 50 to 90 percent of all teen-agers. A dermatologist gives hints on diet, cosmetics, and ways to control this complexion problem.

When Life Hangs by a Thread

by JAMES GODFREY HARMOUNT

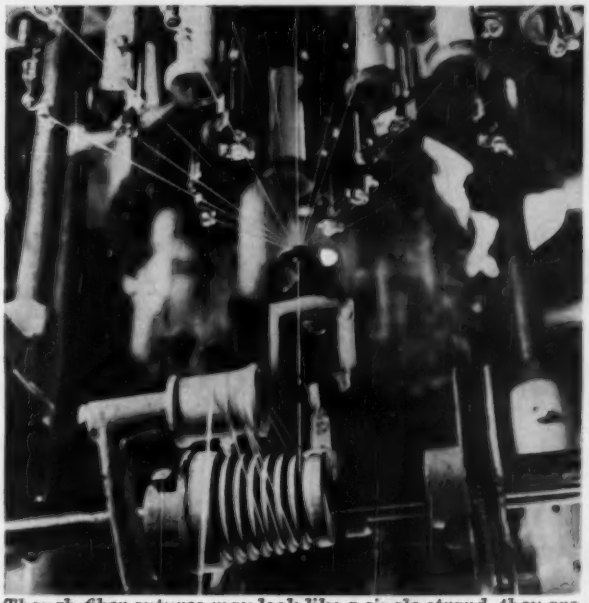
A SUTURE is a surgical stitch. In common usage, however, the term often refers to the stitching material used to hold together the edges of a wound until healing makes artificial support unnecessary. Thus, in surgery, a suture quite literally can be a thread by which life hangs.

Surgery was known and practiced in the pre-Christian era by the physicians of ancient India, by the Chinese and Japanese, by the Moroccan Berbers, and by the Aztecs of South America. Suturing was an integral part of the art; these early surgeons used linen thread, plant fibers, human hair, horsehair, silk, and wire.

The Arabian surgeon, Rhazes, born in 865 A.D., is credited with being the first to stitch abdominal wounds with harp strings made of spun strands cut from the intestines of animals. Thus the modern catgut suture has been evolved from the musical string. The term catgut probably derives from "kitgut" or "kitstring," the Arabic word "kit" meaning a dancing master's fiddle. Some casual translator no doubt misconstrued "kit" to mean kitten. Hence the word catgut, which is a misnomer since it has no relationship to a cat.

Modern sutures are divided into two basic categories: absorbable and non-absorbable. The first, and most widely used, are digested and absorbed in the tissues in which they are imbedded. The material most commonly used is surgical gut, made primarily from the small intestines of sheep.

The second type of suture is not absorbed, but is encapsulated and remains permanently in the tissues of the body. Commonly used non-absorbable sutures are surgical silk, nylon, cotton, and stainless steel wire. Linen, dacron, and horsehair are also used.

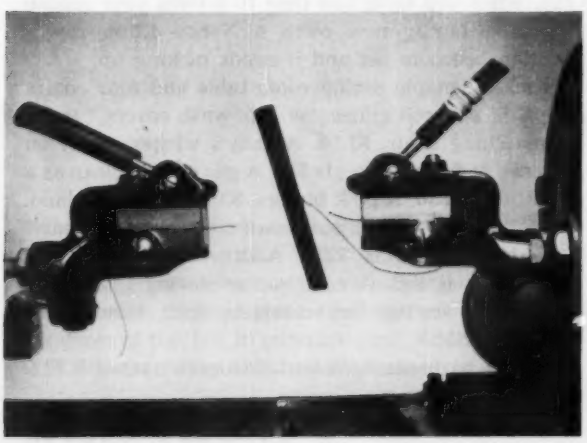


Though fiber sutures may look like a single strand, they are actually several strands wound around a core. One yard of smaller gauge sutures may take several hours to produce.

In the manufacture of surgical gut sutures, ribbons of the raw material are purified by mechanical and chemical cleansing, then are spun into strands of varying sizes. Diameters range from 2/1000 of an inch (used in eye surgery) to 1/40 of an inch or more.

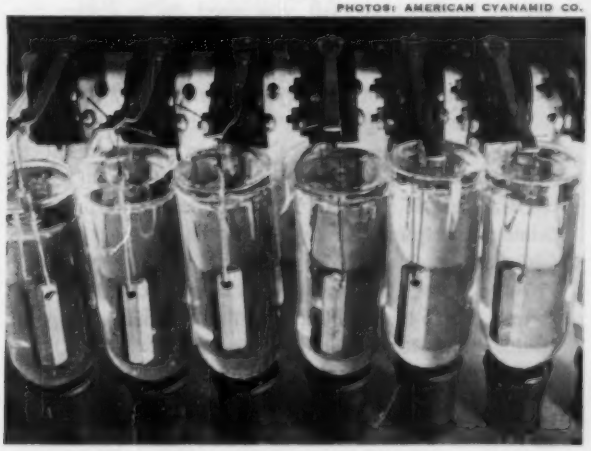
Next, the sutures are chromicized—or tanned—in a chromium solution. This process renders surgical gut more resistant to the digestive action of body enzymes and increases its tensile strength. This enables wounds with slower healing rates to gather sufficient strength of their own before the suture is entirely absorbed. By varying the strength of the tanning compound and the duration of the (*Continued on page 70*)

This device measures to the fraction of an ounce the "knot" strength of sutures. Minimum strength standards, according to type and size of material, are set by U.S. Pharmacopoeia.



To test absorption rate of absorbable sutures they are suspended in a fluid duplicating body enzymes. Weights on ends of strands duplicate pressure exerted by body tissue.

PHOTOS: AMERICAN CYANAMID CO.



FOR SALE:
One Pair of Lady's Dumbbells

by PHYLLIS BLODGETT

WOULD YOU like to buy an Italian church pew for your front hall? Or perhaps a pair of pale-blue-velvet, foam-rubber chairs to grace each side of your fireplace? How about a pine churn? It would make an excellent end table or a handy magazine rack. Could you use a needle-point bell pull?

Or would you rather just look? For the price of a suburban or small-town paper, you can look inside the very best homes where all these interesting items are for sale, and not buy a thing.

For next to breaking into houses, or belonging to the society set, the best way to gain entrance to an elegant mansion is to follow the columns titled "For Sale—Household Goods." Even if you're not a burglar or have never been listed in *Who's Who,* you can still enter by the front door, and be most welcome, too.

You'll be right in style, with paper in hand, as you join the line in the garden waiting for the doors of the country estate, the Victorian home, or the coach house to open when the sale begins.

A Chippendale secretary, a grandmother clock, a set of Limoges china, Stiffel poles, an 1874 portrait in English gilt frame, a Danish armchair with a white raw-silk seat (plastic cover included)—take your pick.

You'll get a quick course in decorating, an education in antiques, a lecture on modern art, and a lesson in landscaping. All you need do is notice the boudoir done in nutmeg, ask the age of the family harvest table, inquire about the Picasso in the library, and admire the potted chrysanthemums by the door.

You must start early. By 8:30 in the morning, start calling the phone numbers listed in the town's local newspaper or weekly news-magazine. But you're not playing fair if you call before eight! Ask for a detailed description of the item listed, and get the address.

Some sales are run professionally, with a few sample items listed in the ad. The address, date, and time of the sale are listed. Don't be late!

These sales are usually held on Saturday mornings. You'll see the nicest people, attired in casual "go-to-market" clothes meandering down the walk, a good 10 to 15 minutes ahead of the hour of the sale. They're what you would call the station wagon set. They almost have to be, to cart home their loot!

When the doors are opened, hold your youngster in your arms, for those nice, respectable folks turn into a mass of pushing people who flood the house within a few seconds. While you wander from room to room—admiring the wallpaper, scanning the book titles, wondering where the back stairs lead—they've scurried from the third floor ballroom with the two Ping-pong tables (paddles included), to the basement with the child's old-fashioned school desk, partly refinished.

These people are experienced in this business. Undoubtedly they have learned by looking, just as you're doing. They want furniture they can't afford to buy first hand.

A light brandy mahogany sideboard is one couple's goal. Yet you'll see the young husband lugging out an Oriental Sarouk runner and his wife carrying a Wedgewood jelly dish she fell in love with. And next week they'll start out again to look for their sideboard.

It's a cash-and-carry deal. Sometimes it's no deal unless you can carry it right out with you. But usually you can return to claim your acquisition at nightfall, when you have had time to inform your spouse that the family now owns a Nancy Elton reproduction bedroom set and it needs picking up.

An oval maple dining room table and four chairs are $25. A porch glider, "w. zip. wash covers," is $5. A matching chair, $1.50. A baby's wicker cradle on wheels, fit for a prince, is $15. A gas stove, "clean as a whistle," is $30. A pink bureau, $3. An upright piano, with 10 swivel stools to choose from is "very reas."

A blonde hi-fi is $250. Another set, more of a medium-fi, is $85. A cane rocker sewing chair with a built-in sewing box complete with thread and needles is $10.

A rose bathroom sink with fixtures attached is $15.

"Please check your children at the door. . . ."

In case it doesn't work, china washbowls and pitchers are listed in another ad.

You start out being thrifty, or maybe just curious, even snoopy. Several want ads later, you'll be after a sideboard too, but in pumpkin pine. And how about a "Children's Map of London" framed in black to hang above it? Or a Kodiak bear rug for the den?

Or did you want the pair of lady's dumbbells? For door stops, perhaps? To wire for lamps? Or even to use as lady's dumbbells? Whatever you do with them, one thing is certain. You'll have fun getting them! END

A Doctor in the Making

(Continued from page 26)

Allen and his dad have thoroughly researched Allen's decision to become a physician. In fact, the two once spent their vacation touring colleges throughout the East and checking pre-medical training courses. "I want to make sure the college I go to challenges me and makes me work," says Allen.

Allen knows the rewards of a career in medicine are great. He knows physicians have the knowledge and skills to prevent and correct many of the defects, flaws, and diseases of the human body and mind. He knows physicians are constantly adding to medical knowledge and that some able doctor may discover a new drug, diagnosis, remedy, treatment, or a new technique in surgery that no other scientist has ever developed. And he wants to be a part of this progress. END

PREPARING FOR MEDICAL SCHOOL?

If you answer yes to these questions you're on the right track:

- Does your intellectual curiosity compel you to pursue studies beyond the minimum of class assignment?

The art and science of medicine is ever-changing. The physician today must keep up with medical progress. He must meet the challenge of research, and he must be stimulated to learn through daily study.

- Do you like people?

The physician must regard his patients as individuals he must care for—not as case studies or guinea pigs. He must have compassion, consideration, and an awareness of the needs and fears of the people he will treat.

- Are you physically strong?

Physicians spend long working hours in their practice. Emergencies create physical and emotional strain and the physician must be able to withstand this strain.

- Are you conscientious?

The student must be ready to devote about 10 or more years to his formal college, medical school, and post-graduate education—and this at minimum income. This is a long, hard road to become a practicing physician. He must also learn to do individual research without constant supervision.

If you're in high school and considering medicine as a profession:

- Select courses required for admission to college.

Remember: The best preparation for the study of medicine at this early stage is the same as for the preparation to meet the admission requirements of any college or university. Check your high school counselor for advice.

- Choose electives to broaden your interests.
- Develop sound study habits.

After you graduate from high school, college will take you three or four years, medical school another four years, you'll be an intern for one year, and then spend from two to five years to qualify as a specialist.

The cost: The average annual outlay for all expenses for medical school runs between $2500 and $3000, depending on whether you select a privately-owned medical school or a tax-supported medical school. Expenses of colleges and medical schools will vary depending upon the school, its location, your home state, and your own economics.

Happy Hunting Grounds

(Continued from page 47)

building a blind along it, and being there when the turkey time-clock dictated.

These birds are wary and skittish—the click of my camera shutter flushed a flock on two different days. But a shotgun will do the business, and it's a tremendous thrill when cagey gobblers trail their hens up to your hide. Only gobblers are legal. For information, write Texas Game and Fish Department, Austin.

Hungarian partridge. The Dakotas are your best bet, although the prairie provinces of Canada are excellent, too. Find them in cornfields, shelterbelts, or other tree plantings, along weedy edges of country gravel roads, near cattle feed lots, in alfalfa and clover fields and weedy draws. Almost all of North Dakota is good, but the area west of Bottineau is especially good. In South Dakota, the best area is east of Mobridge, around Herreid, near the North Dakota border.

Huns are usually "walked up" while hunters are after pheasants, but in two days of strictly Hun-hunting around Herreid last October, we found nine coveys.

It it difficult to slip up on the little "pepper-pots." A pointing dog is a big help.

Further information is available from the Game and Fish Department at Pierre, South Dakota, or the North Dakota Game and Fish Department at Bismarck, North Dakota.

Sharptail grouse. I've had wonderful luck south of Winner, South Dakota, and 200 miles north of there, west of Mobridge. Also, the Minnesota north country west of Warroad (write to Cal Marvin, Marvin's Motel, Warroad) is a bell-ringer. But for downright perfection, go to the prairies of Alberta or southwestern Saskatchewan, Canada (write to the Game and Fish Departments at Edmonton and Regina respectively).

Like all birds, sharptails should be hunted according to the weather and time of day. On warm days, with little wind, you'll find them in draws or coulees where there is buckbrush, buffalo-berry bushes, or wild plum thickets. They will sit in the shade and rest until about four p.m., when they go to feed.

On cold, windy days, you'll have your best luck in grassy hills and rolling country, especially just under the brow of, and in the lee of, a hill or rise. Look for them on the sunny side.

Early or late in the day, they feed around the edges of corn, wheat, or alfalfa stubble fields. Frequently, they may be spotted from a gravel road, sitting with necks above the stubble and big white breasts stuck out at you. Then get out and go after them. You won't approach very close—they'll flush at 35 to 40 yards, but sharptails kill easily. A single pellet frequently does the job. Use small shot—7½'s, 8's, or 9's.

Bob White quail. If I ever get my fill of Bob White hunting, it'll be time to sell my gun and shells. There isn't much I'd rather do than follow a hedgerow over rolling ridges,

browned by November, and behind a rangy pointer who can freeze a covey dead-still. After the covey rises, the birds will follow the hedge, then duck back into it to provide lots of fancy points by the dog, and steady singles shooting.

For this, give me my home state of Iowa, down in the rough southern counties. The limit of five birds can come pretty fast. It isn't unusual for a party, if willing to walk, to find five or six coveys a day, in a normal year.

The fields of the Southland—Tennessee, Mississippi, Alabama, Georgia, Florida, South Carolina—with their wider ranging dogs and larger supply of birds, appeal to me. You'll like them, too. But I've never had more fun than at home.

Guides who own dogs are practically non-existent in Iowa. You can write Jim Sherman, public relations director, State Conservation Commission, East 7th and Court, Des Moines, for area information. I'd headquarter in any county seat town in the southern two tiers of counties, especially in the central two-thirds. Bring your own dogs. Then try to get some local fellow to hunt with you, to help you get on the farms.

If you hunt in the Southland states, dogs and guides are plentiful. Write to State Game and Fish Departments in state capitals.

Woodcock. All the New England states get a crack at the migrations of the long-billed "timber doodle," grand little game bird that makes a monkey out of so many gunners as he darts, soars, and dashes among the trees. But probably the best state for hunting woodcock is Maine. There you get two cracks at him: one early in the season when the local birds (Maine is a breeding ground) make fair game; the other after the locals have gone south and the migrants from the Canadian woods move in.

Woodcock sit tight, so a dog is almost an absolute necessity. Either the Maine Game and Fish Department, or Bob Elliott at the Maine Development Commission, both at the State House in Augusta, can advise you of localities in which to hunt and sources of information about resorts, dogs, and guides.

Crows. Nothing fires my wing-shooting enthusiasm like hunting crows. I'd rather hunt them than anything. Hit the flyway right, and you can shoot up several boxes of shells in a couple of hours, killing the predatory black bandits. With no other game can a hunter get in this much shooting; there is no limit on crows, of course, nor any value to them. This is strictly a shooting sport, but it's a dandy.

Oklahoma probably is the outstanding spot in the country for crow shooting, although I've had some wonderful shoots in Iowa and Nebraska. Huge flocks of crows migrate from Canada to Oklahoma for the winter. The way we do it? Find a roost (usually a grove of trees), then build a blind on the flyway about a quarter of a mile from the roost, so the crows will fly with the wind to the roost. Hang a stuffed owl high, and visible to crows, in a tree, then around the tree set crow decoys on sticks in the ground.

Use a crow call to attract the attention of roost-bound crows to the "battle" between the crow decoys and the owl decoy. They'll swoop to help, yelling around your "set-out," finally coming into range.

Crows fly to roost each day from about four p.m. until dark, but you'll get stragglers, scouts, and feeders before that.

Oklahoma attracts many non-resident crow hunters during the off-hunting-season winter months—its State Conservation Commission at Oklahoma City will roll out the band for you. They have to dynamite roosts to control predation.

So there you have it—10 birds in 10 areas I call my choicest. If you don't have fun hunting them, it's all my fault. END

Hardening of the Arteries: Everybody's Disease

(*Continued from page 29*)

differ somewhat from diseases caused by bacteria. In the latter, one organism or bacterium starts the process and if this is killed by an antibiotic, the disease usually abates. In arteriosclerosis, however, there does not seem to be any such single organism or cause. Rather, it is made of a constellation of facets, all of which contribute in some degree to the final manifest disease.

In a way this explains why the public finds it difficult to understand what the scientists are talking about and why there seems to be such disagreement among them. The differences of opinion simply prove that hardening of the arteries is a young and vigorous field being tilled by young, vigorous, and usually inquisitive investigators.

The blood vessels actually do become hardened in a way, since they lose their elasticity, become thickened, and often calcium is deposited in them. More important, however, than the hardening is the thickening of the wall which encroaches on the lumen or canal of the artery. Little by little, less blood flows through it and the tissue being nourished by this blood begins to suffer.

A deeper look into this fascinating process reveals that substances of a fatty nature carried in the blood stream seem to get deposited within the blood vessel wall. Fat is the only substance needed in goodly amounts by the body which does not dissolve in water. The body then must maneuver to get this fat into solution and keep it there until it is transported to the tissues in the body where it will be burned for energy or stored to make some women cut the fine figures they do and make older men the sorry sag they so often sport.

The body combines the fat with protein in the blood stream. The protein provides a vehicle for the transport of the fat. The only difficulty is that the combination is unstable and will break down to liberate the insoluble fat without too much provocation.

Blood in the blood vessels is under pressure (your "blood pressure"). This pressure tends to force the fluid of the blood through the blood vessel walls and this fluid carries with it the fat-protein combination. The blood vessel walls act much as a loosely-knit filter, letting most of the material through but holding back a small quantity. This small amount of material, particularly the fat-protein molecules just mentioned, probably causes arteriosclerosis. When this residue gets stuck in the vessel wall, it breaks down and frees the insoluble fat. This fat is irritating to the wall, and in an attempt to seal it off, scar tissue forms around it. Such are the beginnings of arteriosclerosis.

Another aspect of this condition is assuming more importance as we understand more about it. Recall that when you are cut, the bleeding is staunched by the formation of a clot made up essentially of a fine

mesh consisting of strands of fibrin, a protein derived from the blood.

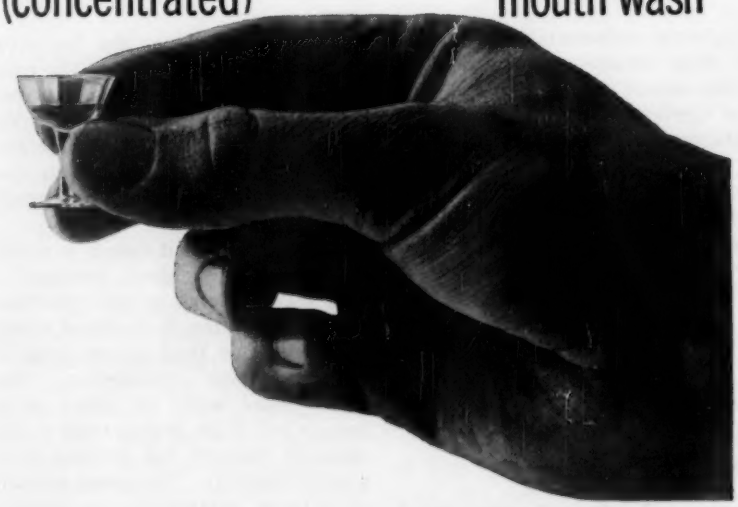
The body has ways of dissolving this fibrin as well as of forming it and normally the dissolving seems to keep up with the formation of these fibrin strands. In some people, however, more fibrin is deposited on the lining of the blood vessels than gets dissolved, and this may mean trouble. The cells that line the blood vessels grow over the fibrin strands and thus an elevated cushion or plaque is formed. The process is not normal, and usually fat is deposited in this thickened part of the vessel wall. This, then, is another way in which arteriosclerosis begins.

Hemorrhages can occur in these plaques and the resulting roughened surface can act as a breeding place for a clot. When a clot or thrombus occurs in the coronary vessels, the heart muscle cries for blood, and a heart attack follows.

Some of the factors to be considered in the development and prevention of arteriosclerosis are:

just 4 drops (concentrated)

add your own water (economical) for one-fourth glass of mouth wash



refreshing flavor—deodorizing —cleansing—mildly astringent

Astring-O-Sol® Mouth Wash

American Ferment Division, Breon Laboratories Inc., N. Y. 18, N. Y.

1. Heredity. Heredity plays a significant part in the production of arteriosclerosis. In some families, generation after generation, most of the members die before age 35 with coronary heart disease and elevated amounts of fat in their blood.

Formerly the view was generally accepted that nothing could be done about the hereditary aspect of disease. Today, since we are forewarned of what to expect, many of these developments can be averted. Even the old saw, "You should have chosen your parents more carefully," may some day make somewhat distorted sense because experimental evidence in animals indicates that sperm selection, radiation, and certain chemical treatments may alter the gene mechanism.

2. Hypertension. High blood pressure certainly accelerates the production of arteriosclerosis. This is not difficult to understand since the elevated pressure within the blood vessels tends to force more of the constituents of the blood out through the vessel wall. The chance is greater, therefore, of having more of it get stuck to start the mechanisms that result in arteriosclerosis.

Fortunately in the past 15 years, treatment of hypertension has progressed from nothing to most effective procedures. Curiously this has been one of the unsung major victories of science. Economically, poliomyelitis is trivial compared to the millions of patients with hypertension. Rightly, the discovery of polio vaccine has been hailed as one of the major events of our century. However, so is the treatment of hypertension and the program developed for prevention of rheumatic fever.

3. Exercise. The evidence that exercise retards the rate of production of arteriosclerosis is not strong but is appealing. Even in the absence of rigid scientific proof, it seems sensible and good hygiene to get regular and reasonably vigorous exercise. It is like taking a cocktail to dissolve the cholesterol in your arteries. It may not be true but it is fun.

4. Stress. Stress is certainly the most difficult factor of all to evaluate. To define stress for the individual is one of the first major hurdles and to keep the channel of thinking pertaining to it as objective as possible, not purely emotional, is a second considerable problem.

(*Continued on page 67*)

TIPS *for your home and family*

HALLOWEEN SAFETY FOR TRICK OR TREATERS . . . CHECK THE FIRE HAZARDS IN YOUR HOME

TODAY'S TRICK OR TREAT system at Halloween is much better than the property destruction and vandalism practiced by youngsters a few generations ago. But there are hazards involved. You can help make Halloween accident-free by following simple safety rules.

- PAINT FALSE FACES on children with eyebrow pencil, grease paint, burnt cork, and cosmetics. DON'T USE A MASK. A mask may be dangerous because it may slide over a child's eyes and block his vision for a moment. In some cases, where the mask is worn over the entire head, there is danger of suffocation.

- MAKE ALL YOUR COSTUMES in light-colored material--dull black "witches" costumes and "skeleton" suits are hard to see on dark streets and roads. Use inexpensive colored muslin.

- FLAMEPROOF YOUR COSTUMES and decorations by dipping them in the following solution: three quarts of warm water, seven ounces of borax, and three ounces of boric acid.

- MAKE THE COSTUMES tight-fitting so they do not catch on fences, hedges, and bushes. Avoid tripping hazards by not making the costumes too long.

- TO MAKE YOUR LITTLE SPOOK stand out in the dark use reflective materials--tape, liquid, or bands--on costumes, capes, jack-o-lanterns, hats, broomsticks, trousers, shoes, "loot bag," and just about anything else he will wear or carry. The liquid is available in most sporting goods, hardware, auto accessory, and paint stores. The tape may be found in drug stores, supermarkets, and stationery shops. Cut the tape in fancy designs and stick it to the costumes.

- CHILDREN SHOULD NOT be allowed to carry lighted candles or torches--these are a threat to their safety and to the property of others. If the child has to have a lantern or light make sure it is powered by flashlight batteries.

- A CHILD SHOULD NOT be allowed to carry a knife or other sharp instrument--make a dummy out of cardboard.

IF YOU ARE DRIVING THE SIDESTREETS on Halloween, slow down. Keep in mind there will be more children on the streets than usual.

AND REMIND YOUR CHILDREN OF THE BASIC SAFETY RULES: Not to dash between parked cars; not to play in the street; to cross at corners only, and not to cross the street without first looking both ways.

IF YOU'RE A HOMEOWNER, play it safe:

- You wouldn't want anyone hurt on your property, as you may be held legally responsible. Make it easy for the kids to have fun--but guard against accidents that may spoil a child's, and your, Halloween.

(over)

TIPS for your home and family (continued)

- Eliminate hazards in your yard so youngsters don't become casualities. Cover excavations, and tie strips of white cloth on fences.
- Keep a light on so excited kids don't trip on the stairs, lawn furniture, or other obstacles.
- It's important you keep all your pets inside, especially dogs. Ghosts, witches, and goblins, and other children dressed in strange costumes, may scare or irritate dogs.

IF YOU'RE WORRIED ABOUT YOUR YOUNGSTER, plan a party in your home--at least you'll know that he will be safe all evening. Again, be careful:

- Make sure all of your decorations are flameproof. This includes costumes, hats, leaves, and cornhusks.

- Plan a scary program for the evening, but don't go overboard. Very young children should not be subjected to "torture chambers" or "halls of horror." And don't make your ghost stories too realistic.

- When other trick or treaters come to your door, have some goodies handy to give to them. Assign different children at the party to pass them out. Cookies and other food treats should be wrapped to keep them clean.

- And remind the kids to go easy on eating sweets.

ANY FIRE HAZARDS IN YOUR HOUSE? You can "celebrate" Fire Prevention Week (October 8-14) by going through your house, room by room, and eliminating fire hazards.

KITCHEN AND DINING ROOM. Clean all grease from your kitchen range.
- Hang curtains so they won't blow over the burners.

- Be sure several electrical appliances aren't connected to a single outlet.

LIVING ROOM, BEDROOM, AND BATH. Replace worn lamp, radio, television, and extension cords with new ones.
- Protect your wood-burning fireplace with a metal screen, and make sure the chimney is cleaned and inspected periodically.

- Allow enough room around your television set for proper ventilation.

- Put electrical appliances out of the reach of anyone bathing.

BASEMENT AND ATTIC. Clean out accumulated rubbish, old clothes, toys, magazines, and newspapers.
- Keep the furnace clean and in good repair, and do not store paints, turpentine, or kindling nearby.

GARAGE AND YARD. Clean the garage and remove all combustible rubbish.
- Have an adult present when trash and leaves are burned.

- Store paint and varnish in tightly-closed containers.

GENERALLY--Keep matches away from children; hire only a competent electrician to repair or extend electrical wiring when necessary; use fuses of proper amperage for your household lighting circuits; have enough outlets so you avoid improper use of multiple attachment plugs, and don't use gasoline, benzine, or other similiar flammable fluids for cleaning clothing and floors.

Dennis Orphan

Hardening of the Arteries

(Continued from page 64)

Many of my most respected investigator friends believe in it firmly. Stress to me seems to represent the challenge of life and without such challenge life would become relatively meaningless. Moreover, I do not know how to avoid stress, even if I would. Appealing to me is the belief of the possibility that stress affects the mechanisms which induce the formation of a clot and thus coronary thrombosis or apoplexy, rather than being directly involved in producing coronary or cerebral arteriosclerosis.

5. Sex. The sex factor is significant because the difference in the sexes not only represents a pleasant change in what might have been a dull homogeneous population, but it indicates a difference in death rate from arteriosclerosis of something like three men to one woman—a further example, as though we needed any, of the biological superiority of the female. Woman ceases to cut such a figure when she passes the menopause and then for all intents and purposes, or shall we say almost, she becomes like the male in her susceptibility to arteriosclerosis.

Modified female sex hormones are under study in attempts to incorporate within a tablet the part of femininity which protects against arteriosclerosis without the part that provokes attacks by males.

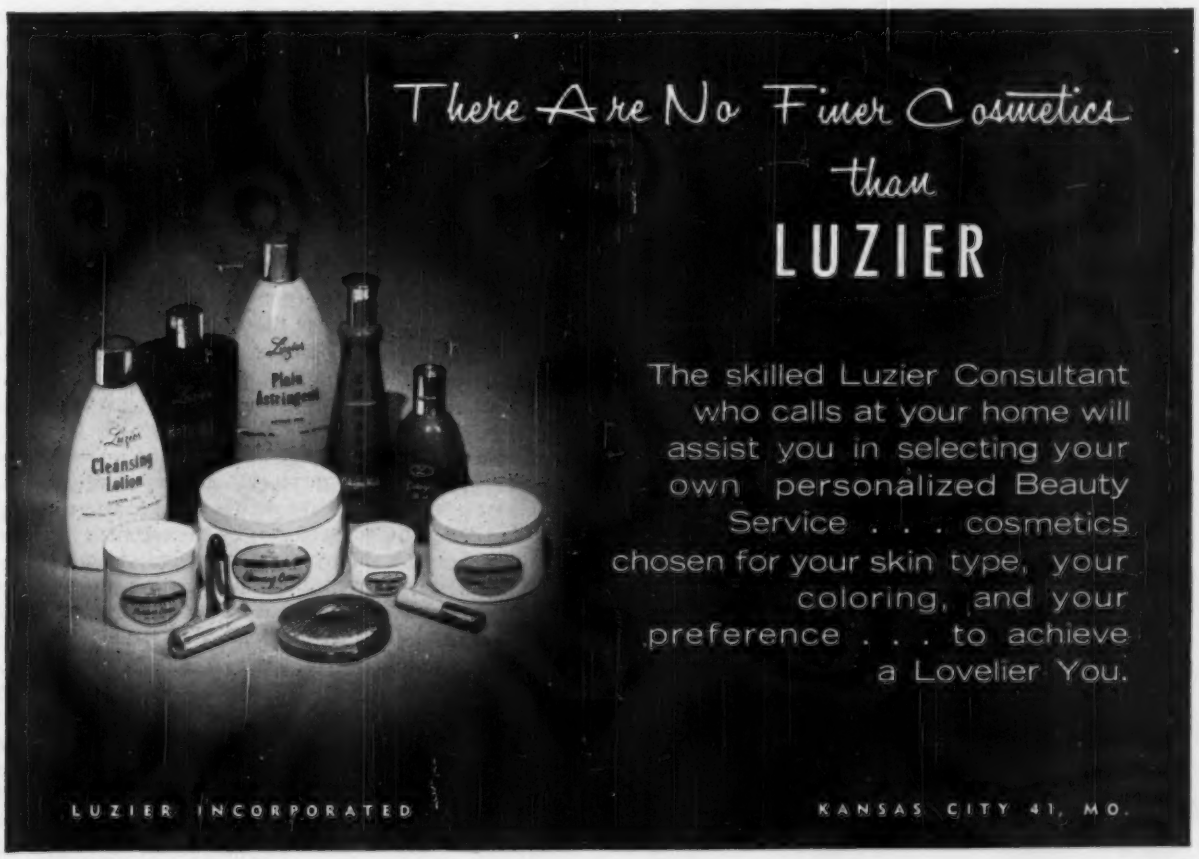
6. Diet. The most talked-about factor is diet. But then diet has always been talked about. The first aspect is the problem of obesity and the consumption of more calories than we need. I don't think anyone would defend obesity except a few of the obese. Obesity puts an extra load on the heart and on the pocketbook. It is indicative of too little load in the head and too much on the behind. Suggestive, but not conclusive, evidence associates obesity with a higher than usual incidence of arteriosclerosis.

Quite a different facet is the problem of whether or not the fat content of the diet determines the amount of arteriosclerosis. The answer seems to be that in some persons it does and that in others obesity plays a distinctly minor part.

It is still uncertain whether or not the fat content of the diet of a nation truly reflects the incidence of arteriosclerotic heart disease. However, those countries with a high incidence of heart disease do in fact have a high rate of fat consumption. Whether or not the relationship is one of cause and effect is not known, though it is highly suggestive.

Furthermore, incontrovertible evidence is now available to demonstrate that the kind of fat in the diet helps to determine at least the level of cholesterol and fat in the blood, which may in turn help to determine the amount and kind of fat that may be deposited in the arteries. In brief, those fats of vegetable origin that are known as unsaturated fats seem to be the ones that depress, rather than elevate, the blood fats. On the contrary, the saturated animal fats tend to elevate them. Unsaturation simply is a measure of the avidity of fat to be oxidized in the air and thus ordinarily to become rancid. Most unsaturated fats are liquid at room temperature.

These facts about diet are stimulating and promoting the study of the practical application of food in-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corporating these fats. Corn oil, cotton seed oil, safflower oil, and soya oil all are under study. Once we have learned how to cook with these wholly successfully, it will remain to be shown that this factor is significant enough to reduce the death rate from coronary and cerebral disease of the blood vessels.

The next few years will doubtless see a rash of suggested preventives and treatments for arteriosclerosis. Although this disease is the commonest disease known to man, it has been largely overlooked. We may anticipate that before long, with the realization of its importance will come many bizarre views on its cause and cure.

Food faddism will certainly be involved and this is one of the costliest bits of foolhardiness. Fortunately for the promoters and unfortunately for clarity in thinking, these fads usually are not dangerous uniess carried to extremes. However, the taking of drugs to alter the rate of synthesis or destruction of fat and cholesterol could be potentially very dangerous. These should be tried only under the most carefully controlled experimental conditions.

Work in the field of arteriosclerosis is progressing rapidly, building the solid foundation of knowledge necessary for ultimate solution of the many problems. In the meantime, certain common-sense rules are advisable which can be safely and, I think, effectively used in the prevention of arteriosclerosis. These are:

1. Reduce weight if obese—eat less in the hope you will live longer to eat more.

2. If heredity is poor and blood cholesterol level is high, see your doctor and try to reduce the level by change in dietary habits.

3. Reduce blood pressure if it is elevated.

4. Reduce the proportion of solid animal fats to the liquid vegetable fats and reduce the total quantity of both. A balanced diet is important and extremes of all sorts should be avoided.

5. Increase the amount of regular exercise.

6. Avoid excesses of all kinds but don't miss anything.

7. Accept life's challenges, come to terms with the inevitable, and live as though you would live forever, and in spirit you will. END

"Quiet Pills" Are No Short Cut!

(*Continued from page 34*)

their patients. The problem with sedatives was that while they calmed the anxious patient, they also made him feel like curling up in bed.

The wonder of tranquilizers, which work on the brain in far more subtle chemical ways, is that they calm the patient with less tendency for making him drowsy, dulling his senses, or affecting his alertness—thus enabling him to stay on the job. True tranquilizers—such as meprobamate and chlorpromazine—can be purchased only with a prescription.

Seeing the great amount of publicity given to tranquilizers, and their wide use, patent medicine men capitalized on the antihistamines' side effect, threw in a few other ingredients, and soon were running advertisements for mail-order and over-the-counter purchase.

In some cases, the federal government stepped in and seized shipments, charging that the products were being promoted in such a way as to improperly suggest they were really tranquilizers.

Of the pill in one ad, the American Medical Association's Department of Investigation commented: "The tablets contain a bizarre mixture of compounds, most of which have no place in medicine designed to allay apprehension and anxiety." Using an antihistamine in such a manner is not a proper use of its function, the department added.

The most frequently-used antihistamine in these "tranquilizers" and sleeping pills is methapyrilene. Other drugs frequently combined with the antihistamine—or with each other—are bromides, which are mild sedatives; scopolamine, a mild sedative derived from belladonna, and such pain-killers as salicylamide and acetophenatidin.

Bromides have been used for 150 years and were one of modern medicine's first non-narcotic sedatives and anti-epileptic drugs. They've long been sold over the counter as "nerve tonics" and in fizzing headache remedies. When taken as directed, and only occasionally, bromides are relatively harmless, as are the other ingredients.

The only reason the FDA allows quiet pills to be sold without a prescription is that the amounts of drugs in each dose are well below what would ordinarily be needed to produce untoward effects. But, as so often happens with patent medicines, the person taking them is not educated in pharmaceutics. Particularly if he is disturbed, he may take double or triple doses and perhaps oftener than recommended on the label.

In the case of bromides, high doses taken over a long period of time can cause habituation, or worse, bromide intoxication, the main symptom of which is mental disturbance! In fact, in their standard textbook, *The Pharmacological Basis of Therapeutics*, L. S. Goodman, M.D., and A. Gilman, Ph.D., state: "From two to 10 percent of patients routinely admitted to psychiatric hospitals are found to be suffering from some degree of bromide intoxication, and death occasionally results."

Scopolamine is one of medicine's oldest drugs. It depresses the activity of the brain and central nervous system and thus has a sedative action. For years it has been used by surgeons to enhance the effects of narcotics prior to operations. But it must be used with care as it has a high incidence of toxicity. Too much can cause euphoria, hallucinations, amnesia, and delirium.

As for the antihistamines, they have other side effects than the one for which they are sold. The *Dispensatory* lists dizziness, dry mouth, weakness, nausea, loss of appetite, jumpiness, headache, excessive or painful urination, heartburn, reduction in potency, double vision, sweating, and very rarely, rashes. And the larger the amount taken, the greater the degree of side effects.

The Canadian Department of National Health and Welfare holds that "It is not considered to be in the interest of public health for antihistaminic drugs to be advertised to the general public as sedatives. The sedative action of such drugs is considered to be a secondary effect. Many cases of adverse reactions and even fatalities are reported in the medical literature as the result of such use."

The greatest benefit from quiet pills probably comes from the mere suggestion that they will help relieve nervousness and sleeplessness. This is a widely known drug phenomenon called the placebo effect. A recent report from the Westchester Division of New York Hospi-

tal at White Plains, New York, told of a study in which 53 percent to 80 percent of 120 mental patients benefited from colored sugar pills when told they were being given tranquilizers.

Other clinical tests have shown repeatedly that insomnia victims actually fell asleep easily when given placeboes and told they were taking a powerful sleeping pill.

According to Jordan M. Scher, M.D., a psychiatrist on the staff of Northwestern University Medical School, this is the only real benefit of over-the-counter quiet pills.

"Our culture is a great one for jamming things into our mouths," he says. "If you're sick or don't feel right, you take a medicine. We all use the phrase, 'Have you taken anything for it?'" For the person who suffers from anxieties and tension, he says, the over-the-counter pill "helps temporarily to give the chaotic world some structure. This may last from a few days to a few weeks. Then everything breaks down again."

The great danger in such self-delusion is that it delays getting to the real problem. There are other, more hidden dangers: Some physical ills mimic plain nervousness; and, any serious physical disease is accompanied by anxiety. Thus, the person who turns to quiet pills may be delaying the detection and treatment of a physical ill.

All in all, over-the-counter "tranquilizers" and sleeping pills—which sell for about a dime a tablet—are pretty much a waste of money.

In any case, there are some basic things you should know about sleep and tensions, so that you can better evaluate whether you need help of any kind.

Most important, perhaps, is that too many people feel they should drop off every night as soon as their heads touch their pillows. In studying 6800 nights of sleep, Nathaniel Kleitman, Ph.D., University of Chicago sleep researcher, found that you can't expect to fall asleep easily every night. Even a good sleeper has difficulty about a tenth of the time.

"Yet there are thousands of people who let that one bad night out of 10 set them off on a vigilant search for a cure for what they imagine is insomnia. Their vigilance about it puts them on the worry-go-round. They begin to expect trouble every night, buy new springs and mattresses, try various gadgets, take vitamin pills, sip hot drinks, hoping to put themselves to sleep," comment Donald A. and Eleanor Laird in their book, *Sound Ways to Sound Sleep.*

The easiest way to find sleep is to forget worrying about it. And these facts might help: Individual needs for sleep vary from about four to 10 hours a night; the average is 7.5, but you wouldn't buy the average shoe size, would you? It usually takes 15 to 30 minutes to fall asleep. You sleep longer and/or more soundly on some nights than others. You can expect sleep problems if your room is overheated, your bed uncomfortable, your partner a snorer, you are worried about something, or if you are not feeling well.

You should also know that having trouble sleeping *can* be a symptom of emotional upset. It's as important for you to know about your tensions, how to recognize them, and how to handle them, as it is to know that a headache or fever is a danger signal of physical illness—and no more to be ashamed of.

If you need help, see your doctor. He'll be able to tell whether you need a specialist, such as a psychiatrist, to help you. In most cases, because he knows you and has an interest in you, and because most emotional upsets are minor, you'll probably have to go no further. END

Letter From Stan Delaplane

(*Continued from page 6*)

"I like the other. Besides," I said, sneaking a look at the price tag on the sleeve, "this is twice the price. Why?"

"It is in the tailoring," he said with a superior smile. "You cannot beat this tailoring."

"I do not want to beat it. I want to buy the other suit."

The salesman looked disappointed. He called in the tailor, a sad-looking man with a tape measure around his neck. He looked sadder when he saw me.

"One shoulder has to be lifted," he said.

"One shoulder lifted," said the salesman.

They both looked at each other. As though they had discovered a new continent. Or I had walked in with a pointed head. Next time I buy a suit I will. END

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When Life Hangs by a Thread

(*Continued from page 59*)

chromicizing process, sutures with predictable rates of absorption can be produced.

Modern manufacturing methods demand careful inspecting and testing. Sutures are inspected for proper ply construction and gauged for correct diameter. In addition, they are tested for uniformity of digestion, tensile strength, knot security, flexibility, and resistance to bacterial growth.

Knot security is of vital importance; if a suture slips at the knot, complications in wound healing may develop. In the manufacture of surgical gut sutures, a special buffing technique is used to produce a soft matte finish which has superior knot-holding characteristics.

Sutures must also be flexible and easy to handle when used either as a suture or as a ligature (to tie off a blood vessel to control bleeding). Testing and inspection assure that sutures are pliable and will yield readily to the surgeon's manipulation, permitting a "soft" technique essential to rapid healing.

Most sutures are supplied in a sterile condition, ready for use. Individual sutures are wound on reels and inserted into glass tubes containing labels. The tubes are hermetically sealed and packed in cans or jars containing an alcoholic germicidal fluid.

Non-absorbable suture materials—such as silk, nylon, stainless steel wire, and cotton—are often purchased in a non-sterile condition on spools or reels. These must, of course, be sterilized before use. This is accomplished by boiling under pressure in an autoclave for 10 to 30 minutes (depending on the temperature used).

Recent innovations in sutures include permanently attached disposable needles and individual plastic packages. The first eliminates needle-threading and doubling of the suture, which makes a larger hole. The packaging development has resulted in savings in size, ease in handling, and greater patient safety—eliminating glass breakage in the operating room and cutting down dangers of cross-contamination. END

GUNSHOT WOUNDS

October, November, and December—the hunting season—have the highest incidence of fatalities due to firearms. In the United States there are more than 2000 such cases annually, most of which are related in some way to hunting. Probably at least two-fifths are home accidents.

In case of gunshot injury the usual first aid measures for control of hemorrhage, care of shock, and proper lying-down transportation apply. Other precautions to observe are:

1. If the shot has penetrated the chest, apply a thick, snug bandage over entry and exit wounds to keep air from entering or leaving.

2. Be sure to consider the possibility of fracture as well as soft tissue damage. Immobilize any suspected fracture.

3. Much harm can be done in transporting the victim from the field to a car or truck. Bring a cot into the field if indicated, or improvise a stretcher.

4. Speed in obtaining medical help is especially necessary in case of chest or facial injury when breathing may soon be difficult, and sometimes in case of urinary tract damage. Otherwise the urgency is not usually so great and gentle transportation is highly worthwhile. Avoid transporting the seriously injured in a vehicle where they cannot lie down. It is often wise to summon a physician or ambulance to the scene.

5. A common error is to bypass the local physician, taking the patient a long distance to a larger center. The patient may need quiet most of all, proper care for shock, a morphine injection, a transfusion, or better preparation for transportation. Rural physicians are usually very experienced in dealing with accidents.

6. Apparently minor wounds from BB shots are sometimes dismissed. These shots, embedded in the skin, may give no evidence of their presence, even upon close scrutiny. X-rays should be taken, and a tetanus-preventing injection given if indicated.

Clip and retain on file card for future reference

Anatomy of a Toothache

(*Continued from page 33*)

the disease might be caught by a boy kissing a girl or vice versa.

A news dispatch out of Boston recently quoted Dr. Ronald J. Gibbons to the effect that his studies showed tooth decay in animals, at least, may be a disease that can be passed from one to another through transmission of certain microbes. Doctor Gibbons is research associate at Forsyth Dental Infirmary and Harvard School of Dental Medicine.

"The investigation suggests that certain microbes found on the surfaces of teeth are able to store a portion of the sugar ingested while eating," explains Doctor Gibbons. "These microorganisms are then able to convert this stored carbohydrate into decay-producing acid very rapidly between meals."

A comparison of the bacteria pres-

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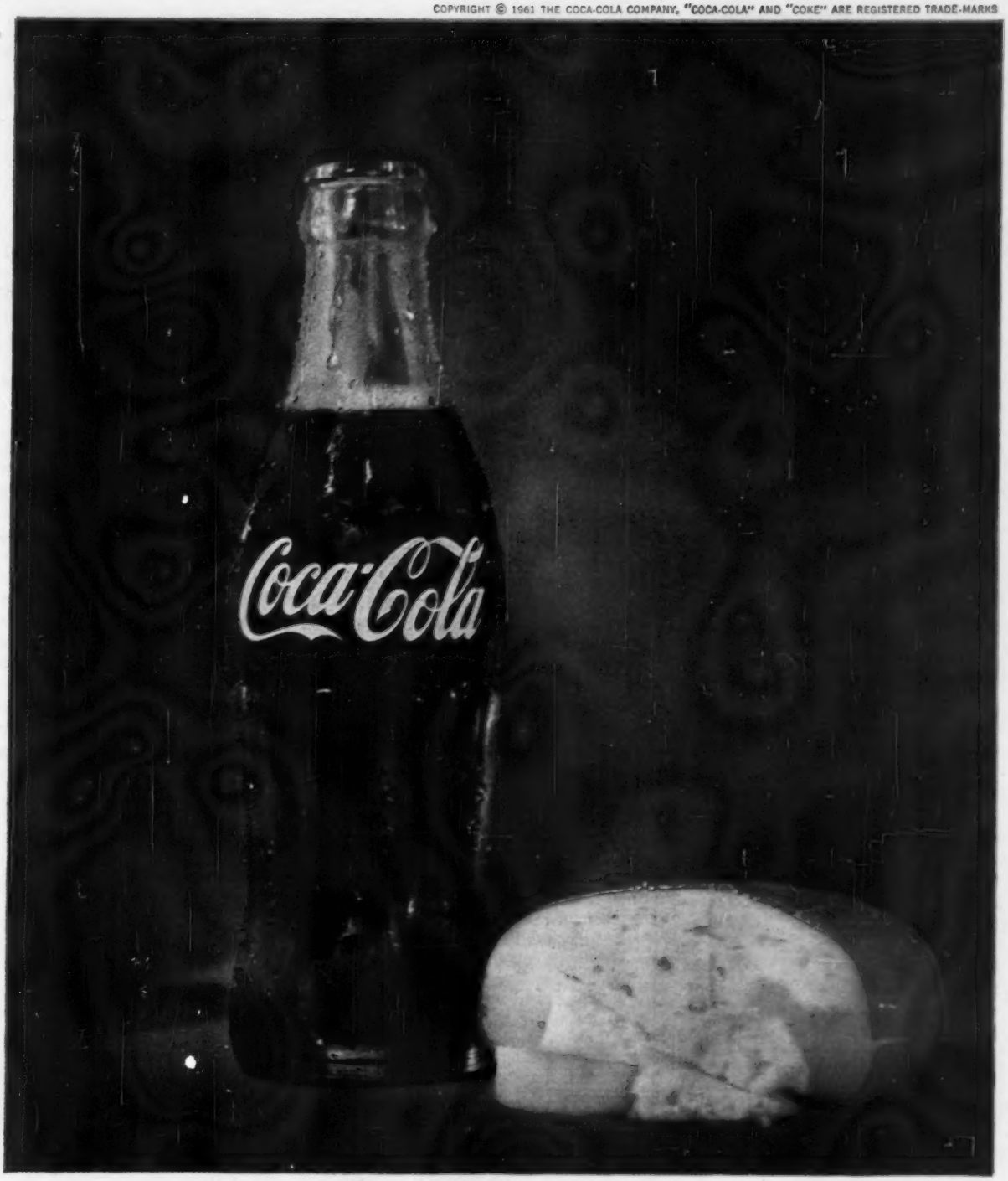

Coca-Cola, too, is compatible with a well-balanced menu. As a pure, wholesome drink, it provides a bit of quick energy... brings you back refreshed after work or play. It contributes to good health by providing a pleasurable moment's pause from the pace of a busy day.

ent on tooth surfaces between patients with tooth decay and those free from decay showed almost twice as many bacteria capable of storing sugars in the patients with dental caries. Dr. Francis A. Arnold, director of the National Institute of Dental Research, comments:

"Research with experimental animals suggests that tooth decay may be transmissible like other infectious diseases. Possibilities have been demonstrated that it may be infectious and transferable in humans by certain microbes found on the surfaces of the teeth."

The microorganism is believed by some researchers to be a streptococcus bacteria, a relative of the "bug" that causes "strep" throat. However, at this writing, no single microbe had been pinpointed as the actual culprit. There may be all sorts of other microbes involved. The strep bug is considered only a lead, but it has produced tremendous activity in research circles. Perhaps one of the biggest objectives in dental research today is the concentration of scientific knowledge in an attempt to isolate bacteria causing tooth decay. It's a gigantic undertaking because a single drop of human saliva contains countless microorganisms suspected by many as the decay-producing agents.

Researchers have isolated and examined a hundred or more species of microbes without convicting a single one of causing decay in human teeth. They have found that streptococcal germs cause caries in research animals, so they are pressing their research. In fact, in some experiments the strep bugs could be purged with antibiotics and the animals fed high sugar diets without producing tooth decay.

A rather discouraging block in research, though, is that animals and humans differ. This has led researchers to take freshly extracted human teeth and subject them to the action of human saliva. These experiments are conducted under controlled laboratory conditions that would not be possible inside the human mouth.

There is considerable speculation that if the streptococcal germs are causing tooth decay, they may be chased by antibiotics just as the streptococci causing strep throat were chased by antibiotic agents. Again, though, this is more in the speculative field and no authority in dentistry is overly optimistic about such a remedy.

Actually, tooth decay in humans is believed the result of several caries-producing agents. Leonard Fosdick, Ph.D., and professor in chemistry at Northwestern University's Dental School, enumerates what researchers point to as six basic causes of decay. He lists them as: sugar, microorganisms, heredity, lactic acids, enzymes, and modern diet.

DOCTOR Fosdick suggests three recognized preventives against tooth decay.

1. Refuse to eat carbohydrates, particularly sugar, which form acids causing dental caries.
2. Destroy acids in the mouth after they are formed.
3. Make teeth resistant to acids which cause decay.

"It has been shown experimentally," says Doctor Fosdick, "that eliminating carbohydrates, especially sugar, from the diet will stop caries."

Doctor Fosdick explains that it takes from three to 15 minutes for acids from carbohydrates to form in sufficient concentrations in the mouth to attack teeth. The maximum acidity, he says, shows up on the teeth about 10 minutes after sugar is put there. So it helps to stop the action of sugar-formed acids on your teeth if you rinse your mouth thoroughly with water before the 10-minute interval expires. In other words, immediately after consuming either food or liquids heavy in sugar content, rinse out your mouth with water.

"We had known for a long time that sugar caused caries but could not produce them in animals," explains Doctor Fosdick. "This caused some scientists to hold out against sugar as the decay-producing agent. But since the last decade it has been repeatedly demonstrated that some research animals fed a high sugar diet develop dental caries."

Researchers at the University of Utrecht, the Netherlands, also blame sugar for dental caries. They report finding that the natural environment of the human tooth is the bacterial plaque (deposit of material upon the surface of a tooth) and not the saliva. They hold that the process of initiating dental caries can be understood only by determination of the properties and processes within the bacterial plaques.

The Dutch researchers conclude that it's improbable there exists a specific microorganism that causes

WHICH IS REALLY THE WEAKER SEX?

WHAT constitutes sickness? What's an acceptable reason for disability? When it comes to answering these questions, women seem to to have their own ideas—and their ideas differ sharply from those of men.

This was suggested by Lawrence E. Hinkle, Jr., M.D., associate professor of clinical medicine at New York Hospital, Cornell Medical Center, in a report on a 25-year study of 116 men and 96 women.

The study sought to determine why American women appear to be more sickly than men, and why women in industry lose more time through illness, but, in general, outlive men.

"The incidence of disabling illness among the women was significantly higher than among the men," said Doctor Hinkle. "However, the difference was almost entirely accounted for by a higher incidence of colds, 'grippe,' pharyngitis (a type of sore throat), acute gastroenteritis, dysmenorrhea (painful menstruation), muscular pains, minor cuts and bruises, headaches, and minor periods of tension, anxiety, asthenia (loss of strength and energy), or depression."

Though the women were disabled more frequently and for a greater proportion of the time than the men, the incidence of serious, life-endangering illnesses was somewhat higher among the men. Doctor Hinkle estimated that, over a 20-year period, the men experienced a risk of death from illness greater than that of the women in a ratio of about four to three.

He said it seemed very likely that the higher incidence of illness and the greater amount of disability among the women was "largely the result of culturally determined differences in the attitudes toward what constitutes illness and what creates an acceptable reason for disability in men and in women."

dental caries. They contend, instead, virtually all bacterial species of the plaque form acids from sugars and this acid contributes to the decalcification (decaying) of enamel.

J. L. Hardwick of Dental Hospital, Birmingham, England, recognizes three main theories to account for the harmful effect on our teeth of the civilized or modern diet. They are:

1. Fewer foodstuffs which promote vigorous mastication (chewing) and a natural cleansing action on the teeth.

2. A diet containing greater proportion of quickly fermentable carbohydrates which are rapidly broken down by bacteria on the teeth to acid end-products which then attack the hard dental tissues.

3. A diet which contains fewer factors protective against dental caries.

In New Zealand, the dental decay rate is among the highest in the world. There researchers are looking to the soil to learn what effect minerals have on fostering or retarding tooth decay. Certain minerals in the soil are taken up by plants and become a part of the human diet, undoubtedly working their way to the teeth in many instances. Results thus far have demonstrated fewer caries and lower dental decay rates in communities where tin, molybdenum, and aluminum abound in the soil. The purpose of the research obviously is to find decay preventive minerals and add them to the diet.

At the University of Alabama Medical Center in Birmingham, Drs. Theodore Koulourides, Heriberto Cueto, and Ward Pigman, biochemists, report finding a method for preventing and curing tooth decay. No drilling and filling is necessary. They claim only chemical solutions are used to reharden tooth enamel in the spots beginning to decay.

THE doctors claim success in rehardening tooth enamel in test tubes containing solutions of calcium and phosphorus. More than 300 teeth were softened in an acetate buffer solution and then exposed to rehardening agents. Teeth placed in a chemical solution of secondary calcium phosphate dihydrate returned to their original hardness in eight days. Those in synthetic hydroxyapatite solutions, containing one-millionth part fluoride, rehardened in four hours. Hydroxyapatite is a natural inorganic component of teeth.

The doctors concluded from their experiments that the beginning stages of decay probably can be healed or prevented by modifications of the oral fluid. However, they found that teeth softened beyond a certain point in the hardness scale could not be rehardened appreciably. This point, the researchers believe, represents the boundary between sound and decaying enamel, and attempts to reharden such soft teeth would be futile.

United States Public Health Service dental scientists are experimenting with calcium phosphate as a decay resistant. Calcium and phosphorus are mineral constituents of bones and teeth. The calcium phosphate is being fed in bread to about 700 children, eight to 14 years old, in eight South Dakota boarding schools. The minerals were found effective as a decay deterrent in research animals. Some researchers suggest calcium phosphate may show clear basic advantages over fluoridated water. Others doubt it.

SOUND advances against tooth decay are being achieved by flouridation of water as a preventive. Fluoridation of water is accomplished by adding fluoride to drinking water. Fluoride is a natural substance found in varying degrees in all drinking water and many foods. Experience has shown that the best effect in combating tooth decay is obtained when the drinking water fluoride content is one part to a million of water. It costs about 10 cents per person annually to fluoridate water supplies, less for an entire lifetime than the cost of a single tooth filling or extraction.

It has been demonstrated conclusively that fluoride reduced tooth decay by 65 percent in children's teeth in several major U.S. metropolitan areas where some 37 million persons are drinking fluoride-treated water. The studies showed that water fluoridation enables children to grow stronger teeth, and tooth enamel containing the right amount of fluoride resists decay far better than fluoride-deficient enamel. Researchers have verified repeatedly that between one-half and two-thirds of new tooth decay is prevented by nourishment with fluoridated water from conception and birth.

Claims have been advanced that

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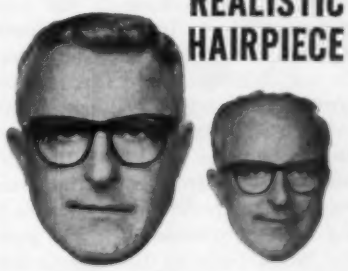

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the same results may be obtained by placing fluoride in capsules or food for children to consume. However, many authorities say this method would not be as reliable, cheap, or effective as water fluoridation. Others have argued that it is of lesser value to adults since teeth must be in the formative stage, as in children, for fluoridated water to be an effective decay deterrent. However, some benefits appear to accrue from the regular passage of fluoride-treated water over the teeth of adults. Moreover, the teeth helped by fluoridated water in today's children will be the sound teeth in tomorrow's adults.

Meanwhile, as today's scientists labor in their search for causes and cures of tooth decay, they may take heart in the knowledge that more than 2500 years ago the Etruscans of Italy at the mouth of the Po River had little, if any, dental decay. More than 1000 Etruscans have been unearthed and examined by archeologists, roentgenologists, and dental researchers. No evidence of dental caries was found in the teeth of children, those in their middle years, or the aged.

The Dental Institute of the University of Budapest, Hungary, commissioned roentgenographic and microscopic studies on the teeth of 79 prehistoric children's skulls excavated from various regions of Hungary. The examinations disclosed that the dental health of children who dwelt in the area from about 15,000 to 5000 B.C. was excellent.

The secret of those former earth dwellers' resistance to tooth decay, if they had one, was buried with them. Fortunately, modern man has no secrets about dental care. Oral hygiene and tooth decay preventives are available to all who wish to practice them. END

Let's Get Our Feet on the Ground

(*Continued from page 30*)

He considers walking "at a fair pace" the easiest exercise of all, requiring no equipment except shoe leather.

"Good muscle tone in the arms and particularly in the legs, resulting from regular exercise," says Doctor White, "maintains an improved circulation of blood in the veins. Since the veins have valves, which when in good condition prevent the blood from going the wrong way, the compression of the veins by the skeletal muscles helps to pump the blood back to the heart. Soft, unused muscles do not accomplish this as well.

"Exercise also improves the tone of the diaphragm, which results in its better function as the piston of a pump, not only for bringing oxygen to the lungs with removal of carbon dioxide, but also for the suction of blood into the heart."

Maintenance of good circulation, according to Doctor White, may mean the difference between good health and physical unfitness. Even more important is the beneficial effect of exercise on a man's nervous system and psyche. For himself, Doctor White has learned that regular, vigorous exercise is the best antidote for nervous stress and strain.

It was George Macauley Trevelyan, the noted British educator and walking fan, who once observed: "I have two doctors, my left leg and my right. When my body and mind are out of gear, I know that I shall have only to call in my doctors and I shall be well again."

Walking as an exercise for health is quite distinct from walking as a pastime. As something like a way of life, the habit is time-honored, hallowed by the footprints of the famous. Aristotle expounded his philosophy while taking walks in an olive-shaded Athenian park. Shakespeare, who divined the connection between walking and a "merry heart," conscientiously observed his own maxim: "Jog on, jog on, the footpath way." Ben Jonson walked from London to Scotland, and Carlyle once took a 54-mile hike.

Americans have a long tradition of walking, from Thomas Jefferson and Thoreau up to Theodore Roosevelt, Chief Justice Charles Evans Hughes, Justice William O. Douglas (who hikes in many parts of the world), and Thomas Wolfe, an inveterate nightwalker.

In Washington, Harry Truman used to get up at 5:30 a.m., read all the newspapers and then take his half-hour constitutional. Today, in whatever city he happens to be, the former President continues the practice, striding off his two brisk miles at the old infantry pace of 120 steps to the minute, generally leaving trailing newsmen or friends puffing. He walks in the early morning "simply to avoid interference;" later in the morning, he's apt to encounter too many pedestrians to maintain his pace.

Commenting on this habit, the 78-year-old Truman recently remarked: "A man should adjust himself to his age. Lots of men of from 45 to 65 think they are 18 to 28. When you reach my age, you'll find walking the best exercise."

Almost anything can happen on a jaunt. When Truman was still at the White House, he interrupted his morning stroll one day to go down a stairway leading from Memorial Bridge. On a lower landing he found the bridgetender with his breakfast spread before him on a newspaper. The President told him to finish eating and carried on a philosophical discussion of life with him. Then the bridgetender showed the President how to work the drawbridge machinery. Such small, surprising adventures await the walker almost any time he steps out.

There are, of course, extremists. Consider, for instance, the late John Finley, the dignified former editor of the *New York Times*. One evening, a friend asked him if he had had a chance to take his usual walk that day.

"Oh," replied Mr. Finley, "important business was due to come up, so I could not get too far from the office. So I walked around Manhattan, phoning in at intervals."

"Just where did you walk?"

"Around Manhattan."

It turned out that the editor had circumnavigated the borders of the entire island.

A Naval Reserve officer, Comdr. Thomas J. Keane, started walking to keep his weight down. On week ends for four years, he walked in every street, avenue, and alley on Manhattan—a total of 3022 city blocks, roughly 502 miles. Another fanatic, 70-year-old John Ennis, hiked 4000 miles from Coney Island to San Francisco.

But let's consider the casual common, everyday variety of a 10-minute or half-hour saunter for sheer enjoyment or exercise. On such a leisurely walk, you explore the

world spread before you, take time to see trees as well as forests, people as well as crowds. You learn how high is a hill, how long is a mile. There's a knack to walking—in knowing where and how to walk, and with whom.

Nothing is orthodox about walking. Many veterans contend it should be a voluntary, uncomplicated, unregimented, preferably spur-of-the-moment idea. This is one of many arguments in favor of legging it alone. On your own, you're a free agent; you can turn left or right, halt, or continue as the whim dictates. In the country, if you want to sit for a while on a fallen tree trunk and contemplate nature or the night, you're at liberty to do it. Many people feel that solitude and silence is rare enough, so they prefer an absence of chatter.

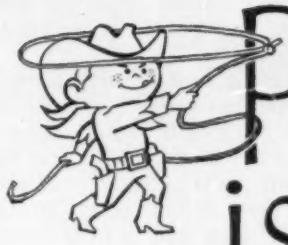
Brooks Atkinson, famed dramatic critic, maintains that good walking companions are hard to find ("you need sages, humorists, natural philosophers"). With a companion, there are apt to be delays, preparations, arguments about where to go, and the pace to be set. When paths divide, a conference may have to be staged. William Hazlitt put it this way: "I like to go by myself. Nature is company enough for me. I cannot see the wit of walking and talking at the same time."

On the other hand, many prefer the warmth, the banter, and intimate talk of fellowship. Others find that a dog is particularly good company in the country. As John Burroughs, the great naturalist, once observed, "A dog is a true pedestrian. He is constantly sniffing adventure, laps at every spring, looks upon every field and wood as a new world to be explored."

Of course, you're lucky if you happen to be married to a good walking companion who keeps in step with you.

On a Sunday, taking children on a walk in the woods can be a treasured experience for the whole family. In the vast school of the outdoors, youngsters can be immensely entertained—and entertain themselves unawares. Out on such walks, they learn that salamanders are not lizards, that trees usually have their largest limbs toward the south, that a frog can't breathe if his mouth is held open.

In the city, too, walking with your children, you build up a cameraderie



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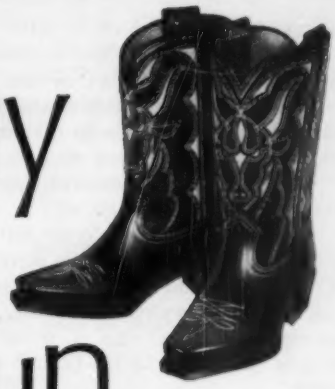

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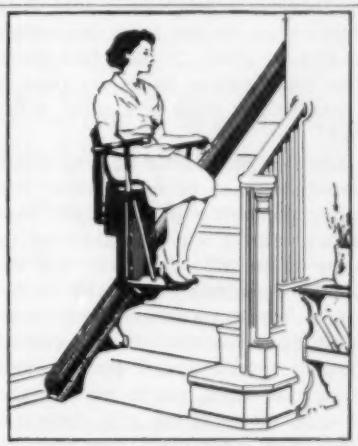

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The best walking, however, doesn't have any "purpose" at all.

"Nothing knocks the color out of walking in the woods," says novelist H. L. Davis, "like forcing some purpose on it. Carrying a camera, for example, gives a man a sneaking feeling he ought to be taking pictures."

Still, a great many regulars like to combine their ambling with a so-called learning process. Some take "courses" while walking in the country. During one period, they may specialize in studying bark patterns of different species of trees. Another time, they'll study rocks, toadstools, ferns, and mosses. It adds a hobby to their walking.

Where you walk doesn't matter too much. Countless Americans do their legwork each day going to and from work. Generally, veterans say it's most fun to let yourself drift, roaming on and half-consciously losing your way.

"Success in walking," said John Burroughs, "is not to let your right foot know what your left foot doeth. The true walker takes no note of distance; his walk is a sally, a bon mot."

Ideally, you should be continually coming around corners, seeing new vistas through gaps in hedges, wondering what it will look like over the brow of the hill. That way, you will not be conscious of fatigue or distance. You'll meander along to see what happens next. If you can see clearly what's ahead for the next couple of miles, you'll discover that a sense of weariness will come over you. And don't plan your walk too much in detail. You should always feel free at any time to turn aside, to improvise, to take short cuts.

Walking in the city was, for Christopher Morley, "a never-failing remedy for the blues." No city worth its name is lacking in variety of scene. There are the ever-changing shop windows, the people you meet, the lure of what's around the next corner. Turning a corner in Boston and coming upon the Italian Quarter with its narrow wrought-iron balconies is one of those surprises the city-walker delights in. Chicago has its miles of lakeshore walks, New York its Riverside Drive and Fifth Avenue, San Francisco its Golden Gate Road.

The right way to walk is to be unhurried, unburdened, and prepared to stop and look at things whenever you feel like it. Walk with your legs, not with the muscles of your back. Your toes should point straight ahead or even slant a little inward. Your heel strikes first, then your foot rocks forward on its outer border until the toes grip. The ball comes down last, and the push-off for the next step comes from the big toes. If your heels wear down first on the outer rear corners, then you're walking properly.

Walking the wrong way has been graphically described by Eleanor Metheny, Ph.D., in her study on body dynamics. There is, for instance, the "eager beaver walk." Creating an impression of great energy, this walker swings his arms stiffly forward and backward so vigorously that he throws his trunk off balance. Result is an awkward, jerky walk which leaves him tired.

In the buoyant "upsy-daisy" walk, his body bobs up and down with every step as if he had springs in his shoes. But that up-and-down motion is wasted energy. The "nervous Nelly" walk of many women keeps their upper arms close to their sides, their shoulders stiff and tense. They walk with quick, short steps, using tremendous energy to move themselves along. And there's the "I-don't-care" walk, marked by shuffling feet, dangling arms and head, a body partially collapsed. With each step, the walker becomes more listless, more tired.

Relax when you walk. Let your legs swing normally and effortlessly. Permit your arms to swing naturally. Never hurry. Wear comfortable shoes. John Kieran, who has been taking daily walks for over 30 years, suggests: "Take the sun over your shoulder for the best views and avoid slippery footing."

Set out to enjoy your walk—instead of merely getting to some destination—and you'll come home fresh and invigorated. If you're just starting your regular walks, make the first excursions short ones and gradually work up to more ambitious hikes.

Once you've become an habitual walker, you might bear in mind the thousands of miles of little-known but wonderful wilderness trails throughout the nation. Take your family along, buckle on your shoulder packs, and hit the woodland trails for a simple, inexpensive week end or vacation.

The connected trails, winding through wild and semi-wild areas all across the nation, are made up of pathways used along ago by early settlers and Indians, as well as of back roads and abandoned pastures. Today, the trails are maintained for

WHAT'S AHEAD FOR CHILDREN'S HOSPITALS?

A "ROOMING-IN" SYSTEM for parents whose young children are hospitalized and the development of special hospital units for teen-agers are among the changes for future pediatric planning predicted by a Washington architect.

Avery C. Faulkner, writing in *Hospitals*, the journal of the American Hospital Association, said that including parents in the patient area has three advantages: (1) the child's fear of hospitals can be reduced, (2) parents' anxiety can be alleviated by first-hand observation, and (3) parents can be better prepared for post-hospital care.

Several methods of rooming-in are available, Faulkner noted. Double rooms can accommodate either two children or a parent and a child; single rooms can be equipped with chairs that convert to cots at night, or a dormitory can be set up at one end of the unit to house parents for the night.

Advocating special units for teen-agers, Faulkner said that adolescents need special understanding. Small children embarrass adolescents and should be separated from them, he said. Privacy is essential to protect the adolescent's great desire for modesty, yet this patient also needs a group meeting place where the "gang instinct" can be accommodated. The rules also need to be a bit more relaxed for adolescents, he added.

He suggested that teen-age units should have rooms basically the same as those for adults, but a bit more colorful.

walkers by volunteer groups such as the Green Mountain Club of Vermont, the Horseshoe Trail Club of Pennsylvania, and the Sierra Club of California.

If you live in the East, you can strike out for the Appalachian Trail, a network of marked footpaths meandering through 13 states from Maine's Mt. Katahdin to Georgia's Mt. Oglethorpe. Enter the Appalachian almost anywhere, using available guidebooks. Your walks will take you through verdant forests, across blue streams, up mountain summits, past rugged cliffs.

In Virginia, 100 miles of pathways twist and turn through the Shenandoah National Park, with countless side trails. On the West Coast, running from the Canadian border down into Mexico, the Pacific Crest Trail offers 2000 miles of wild footpaths and scenic grandeur.

While thousands of Americans walk the wilderness trails each year —shouldering packs, pitching tents or using available shelters and leantos—most of us confine our ambling to the neighborhood or the countryside not far off. For exercise, we may walk a few times a week or only on week ends. Most walkers don't agree with Thoreau that "it requires a direct dispensation from Heaven to become a walker." The pleasures of the country road and the city pavements are open to anyone who can appreciate the blue sky overhead, the sun and wind on his face. END

Ham Has Infinite Variety

(*Continued from page 53*)

Combine eggs, ham, and celery. Add mayonnaise, relish, and green pepper. Mix well. Spread on fresh rye or whole-wheat bread. Yield: 3½ cups, or enough for 15 sandwiches.

Ham a la King

- 4 tablespoons vegetable oil
- 2 cups diced cooked ham
- ¾ cup coarsely-chopped green pepper
- 4 tablespoons corn starch
- 1 teaspoon dry mustard
- ¼ teaspoon white pepper
- Few grains cayenne
- 3 cups milk
- ½ cup coarsely-chopped pimiento

Heat oil in a frying pan; add green pepper and ham and cook over medium heat, stirring occasionally, about 5 minutes. Meanwhile, mix corn starch and seasonings in saucepan. Gradually add milk, mixing until smooth. Cook over low heat, stirring constantly, until mixture thickens and comes to a boil. Boil 2 minutes, stirring constantly. Add green pepper, ham, and pimiento. Heat thoroughly. Serve in individual toast cases. Makes 6 servings.

Ham Potato Pie

- 6 medium potatoes
- 2 cups diced cooked ham
- 1½ teaspoons salt
- 1 large onion, chopped
- 1 teaspoon chopped parsley
- Few grains black pepper
- 2 tablespoons butter or margarine
- 1 cup light cream
- ½ cup milk
- ½ recipe pastry

Pare potatoes. Cut in very thin slices. Add salt, onion, and parsley and mix. Fill 2-quart baking dish, alternating layers of potato mixture and ham. Dot with margarine and season with pepper. Mix milk and cream and pour over the potato-ham mixture in dish. Cover. Roll pastry ¼ inch thick in circle to fit outside rim of dish. Cut out designs, or two large slits in pastry to permit the escape of steam. Place over dish. Flute, if desired. Bake in a moderate oven (375°F.) for about 1¼ hours or until potatoes are tender.

Acorn Squash Stuffed With Ham and Apple

- 3 medium acorn squash (2¾ pounds)
- ½ teaspoon salt
- 1 cup diced tart cooking apples
- 2 cups diced cooked ham
- 1 teaspoon powdered mustard
- ¼ teaspoon ground black pepper

Wash and cut squash in halves length-wise. Remove seeds. Sprinkle inside with salt. Place cut side down in a pan. Pour in ¼ inch boiling water. Bake 30 minutes or until just short of tender in a preheated hot oven (425°F.). Turn squash halves cut side up. Combine remaining ingredients and spoon into squash cavities. Reduce oven heat to moderate (375°F.) and bake 20 minutes or until apples are tender. Serve hot. *Note:* If desired, replace acorn squash with small butternut squash. Serves 6.

Lunchtime Casserole

Base:

- 1 10½-ounce can condensed cream of mushroom soup
- ¾ cup milk
- 2½ cups diced cooked ham
- ⅛ teaspoon onion salt
- ¼ teaspoon paprika
- 1 10-ounce package frozen mixed vegetables, cooked and drained
- ¼ cup chopped celery

Topping:

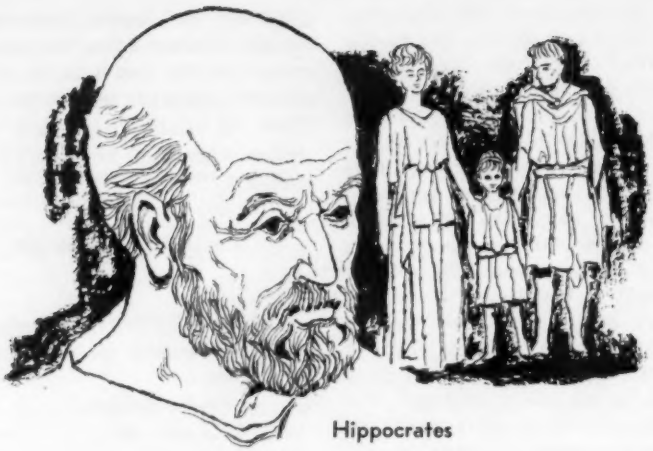
- ¼ cup diced pimiento
- 1 package easy corn bread mix
- 1 egg
- ½ cup milk

Heat oven to hot (400°F.). Combine all ingredients for base; pour mixture into 3-quart baking dish. Place in oven while mixing topping. For the topping, add pimiento to corn bread mix; mix until pimiento is well distributed throughout mix. Add egg and milk to mix. Pour batter evenly over meat mixture. Bake in hot oven (400°F.) 25 to 30 minutes. Makes 6 servings.

Ham Stuffed Cucumbers

- 6 large cucumbers
- 2 cups finely-diced cooked ham
- ½ cup soft bread crumbs
- 1 tablespoon butter or margarine, melted
- ¾ teaspoon salt
- ⅛ teaspoon ground black pepper
- ¾ teaspoon powdered mustard
- 2 tablespoons finely-chopped onion
- ¼ cup vegetable oil
- 1 clove garlic, crushed

Wash cucumbers. Cut off tips and cut each into 2½-inch pieces. Scoop out centers with an apple corer, leaving a ¼-inch wall and one end of each closed. Stand open side down to drain. Combine ham, bread crumbs, butter or margarine, seasonings, and onion. Spoon into cucumber cavities and arrange in a baking dish. Combine salad oil and garlic and pour around cucumbers. Cover, using foil if necessary. Bake in a preheated



Hippocrates

The First Physician

"I swear by Apollo the Physician, by Aesculapius, Panacea, Hygeia, and all the gods and goddesses, making them my witnesses, that I will carry out, according to my ability and judgment this oath."

So starts the oath which is traditionally associated with the medical student entering his profession. The spirit of that oath, written 2300 years ago, lives today in those who practice the science and art of medicine or surgery. Its author was Hippocrates, the father of medicine. Hippocrates was a true symbol of the glory of Greece, a time and a place in world history that produced more civilized wonders than had ever been known.

Little is known of the actual life of Hippocrates, but his teachings were, without doubt, the first major milestones in the history of medicine. Before his time, disease was considered a divine infliction; medicine was just a jumbled collection of fact and fancy. But Hippocrates saw disease as a natural process which developed in logical steps; he viewed the doctor as a man of science instead of a priest.

Hippocrates freed medicine from the bonds of superstition and attempted to observe disease, to classify it, and to predict its course according to the known laws of science. Some of his observations were amazingly accurate: When sleep puts an end to delirium it is a hopeful sign. When one oversleeps, or fails to sleep, the condition suggests disease. When recovering from a fracture, mobilization should be induced at an early stage, since exercise strengthens and inactivity wastes.

Instead of relying on the mystic notions of temple healers, Hippocrates investigated disease at the bedside. With practically no information on causes of many illnesses, Hippocrates diagnosed symptoms with incredible insight. He set and splintered fractures and reduced dislocations; he instituted the use of thermic baths as a therapeutic measure; on the proper occasions, he prescribed emetics for his patients.

But perhaps the greatest contribution that Hippocrates made to the art of medicine was his view of the healing function as a human relationship. He saw the doctor-patient relationship as one which involved both scientific understanding and sympathetic rapport. He felt that the practice of medicine was impossible if the patient does not feel free to reveal everything to his physician, and to that end he insisted that the physician must not betray his patient's confidences.

He believed that the course of any disease was largely determined by the patient's environment and way of life. To him, the patient was a whole person, to be treated as such.

He provided the enduring ethics for his profession. The name Hippocrates symbolizes all that is great and lasting in medicine.

Adapted from the AMA's public service radio program, "Medical Milestones."

moderate oven (350°F.) 65 to 75 minutes or until tender, removing cover 15 minutes before end of baking time. Serve with tomato sauce. Serves 6.

Sautéed ham steaks, served with a piquant mustard cream gravy, make wonderful eating. Sautéed apple rings and sweet potato spears are perfect accompaniments. Ham steaks, cooked with cranberries, or combined with pork and beans and pineapple in a casserole are other succulent recipes.

Sliced ham has many delicious uses besides being served as is on cold cut platters, in sandwiches, or in rolled hors d'oeuvres. Boneless ham chunks or boneless rolls can be cut into ¾-inch-thick slices, marinated in a well-seasoned barbecue sauce for an hour, and then broiled for about 15 minutes. Turn frequently and baste liberally with barbecue sauce.

Fresh Cranberry Ham Bake

- 2 cups fresh whole cranberries
- ½ cup sugar
- ¼ cup water
- 2 center slices ham, cut ¾ inch thick
- Whole cloves

Wash cranberries and mix with sugar and water in a saucepan. Cover. Cook cranberries until skins pop. Place a slice of ham in a baking dish. Cover with ¾ of the cranberries. Top with the remaining slice of ham. Insert whole cloves around edge of ham, spacing them 1½ inches apart. Bake 1½ hours in a preheated, moderate oven (350°F.), basting occasionally with the cranberry liquid. Garnish top with fresh orange slices. Yield: 6 servings.

Ham Roll-Ups

- 1 cup sifted all-purpose flour
- ½ cup enriched corn meal
- ½ teaspoon salt
- ½ cup shortening
- 4 tablespoons cold water
- 6 thin slices (about ½ pound) cooked ham
- 1 10-ounce package frozen asparagus spears, cooked and drained

Heat oven to hot (425°F.). Sift together dry ingredients. Cut in shortening until mixture resembles coarse crumbs. Add water, a table-

spoon at a time, mixing with a fork until pastry can be formed into a ball. (If necessary to make dough hold together, add another tablespoon or two cold water.) Form into ball. Let rest 5 minutes. Roll dough out on lightly-floured board or canvas to form 8 x 18 inch rectangle. Cut into six 4 x 6 inch rectangles; cover each pastry rectangle with a slice of ham, folding ham over if necessary. Place 2 to 3 spears of asparagus in center of ham. Bring ends of 6-inch side of pastry together over asparagus, overlapping one end. Fasten with toothpick. Bake on ungreased cookie sheet in hot oven (425°F.) 15 to 20 minutes. Serve with hot mustard sauce. Serves 6.

Ham & Bean Broil

2 cans (1 pound each) pork and beans with tomato sauce
1 pound thin ham steak
1 teaspoon prepared mustard
4 pineapple slices
1 tablespoon melted butter or margarine
1 tablespoon brown sugar

Pour pork and beans into the bottom part of broiler pan. Place ham slice on rack; set over beans. Spread ham lightly with mustard; broil on one side (about 4 inches from burner); turn. Arrange pineapple rings around ham; brush with butter and dust with brown sugar. Broil until ham and fruit are nicely browned. Makes 4 generous servings.

Stuffed Mushrooms With Ham Steak

12 large fresh mushrooms
1 cup fine soft bread crumbs
½ cup finely-chopped fresh tomatoes
¼ teaspoon ground thyme leaves
¼ cup shredded sharp American cheese
2 tablespoons finely-chopped parsley
1 tablespoon fresh lemon juice
1½ teaspoons salt
⅛ teaspoon ground black pepper
4 tablespoons butter or margarine, melted
1 teaspoon fresh lemon juice
¼ cup buttered bread crumbs
2- to 2½-pound ham steak, grilled
Fresh parsley for garnish

Wash mushrooms, remove the stems, and chop them very fine. Set caps aside and combine stems with next 8 ingredients and 2 tablespoons of the melted butter or margarine. Sauté mushroom caps in the remaining butter or margarine and lemon juice. Fill caps with the bread crumb mixture. Sprinkle buttered bread crumbs over tops. Place on a baking sheet and broil 5 to 8 minutes, with oven regulator set to broil. Serve with grilled ham steak. Garnish with sprigs of fresh parsley. Yield: 6 servings.

Sliced Canned Ham With Fruit

1 6-pound canned ham, cut into ¼-inch slices
1 can (2 cups) apricots, drained
1 can (2 cups) pineapple tidbits, drained
¼ cup butter or margarine

Mash apricots. Combine with pineapple tidbits, butter or margarine, and juice from apricots and pineapple. Heat. Place sliced ham in bottom of broiler pan or large baking pan. Cover with fruit sauce. Heat in a hot oven (400°F.) about 20 minutes. Serve hot. Yield: 24 servings. END

The Man Who Paved the Way for Astronauts

(*Continued from page 39*)

better equipment, what would happen to us?'

"Six months later, I got orders to report to Wright Field in Dayton, Ohio, to be a consultant in the engineering section. My job was to be medical adviser to the people who develop equipment—flying boots, gloves, and such. The thought was to start a medical lab.

"I told my chief I never had experience in research so why send me? Remembering my nasty letter, he said that anybody as unhappy as I was the man for the job. A laboratory was approved for Wright Field and I stayed six years. That's how I really got mixed up in research."

And that was to prove a lucky day for future generations of airplane passengers and pilots—indeed, even astronauts.

Many times, he made tests to determine how much air can flow through a plane cabin to create maximum comfort—experiments that were the basis of all pressurized cabins in big bombers and commercial airliners. Some of these tests carried grave risks from explosive decompression. He gambled his very existence to establish the need for oxygen by high-flying fighter pilots; he flirted with eternity when, more than a quarter century ago, he made the first delayed-opening parachute jump by a physician—a feat that was destined to save countless lives in World War II. He defied death to gather vital information about the gravity factor by flying with pilots who conducted tests to see if a plane's wings would stay on in a tight turn.

In the laboratory and in the sky, he probed and solved the mysteries of pilot fatigue and aeroneurosis, and of the effects of flying on circulation, the heart, and vision. He co-founded the nation's first Aero Medical Laboratory, and he charted the medical course for the space age by establishing a Department of Space Medicine.

Rare combination of brave man, brilliant research scientist and physician, daredevil and dedicated servant, he has devoted a lifetime to the study and advancement of aviation medicine. Even in retirement, he continues to record for mankind his priceless knowledge of aviation medicine and its contribution to the general welfare.

Today, he is recognized as one of the world's foremost authorities on aviation medicine, an eminence he achieved by starting from the top and tumbling down—in a parachute jump.

"It all started," the General said, "because one day in 1929 I was nosing around as a student at the school of aviation medicine at Brooks Field, Texas, and got to talking to a sergeant in charge of parachute jumpers. The sergeant said, 'I get those jokers down here before they jump and warn them to delay 10 seconds before pulling the rip cord because they might get their chutes caught in the tail of the plane. But, a half second after they jump, their chutes bloom. They must get unconscious or something. One of you young doctors should make a jump and see what happens.'

"I wasn't very anxious to attempt a jump because I was married and my wife was pregnant. I volunteered, however, but I figured that if I changed my mind, I'd quietly cancel so they wouldn't know I'd chickened. But, to my consternation, they published the list of those who were going to jump. The fat was in the fire. (*Turn page*)

"I wanted to make a delayed jump, but they said no—no monkey business, open the chute in 10 seconds. (But, instead, I waited until the last possible moment before I opened my chute.) We climbed to 2200 feet. I was paralyzed with fear—until I was out of the plane and free of it. I concluded that people are so upset by fear at that moment that they want to open the chute right now. There were no physical or other psychological effects. The trick is that if you delay, all fear leaves you. I felt suspended up there. It's like driving 90 miles an hour and seeing the Lincoln Memorial 15 miles away—you sense no shortening of distance. You have no sense of falling until you see the ground coming up at you. The closer you are to the ground the faster it comes up to you.

"The whole thing involves the inherent fear of falling. For example, babies cry when they think they might be dropped. It's not a question of courage. It's something you can't control because you are born with the fear of falling. The parachutists didn't do what they were told because of fear."

From this and other jumps, the General learned three basic lessons which later were to save many lives when applied to combat flying:

1. A pilot forced to bail out is not an easy target for strafing by enemy gunners if he is free falling.

2. A parachuting pilot can escape frostbite at extremely high altitudes by rapidly free falling through cold altitudes.

3. The greater the altitude at which the pilot opens his parachute the harder the shock when the chute opens. ("We had thought at first that you'd get a light shock because of the thin air, but we later found that the reverse is true.")

Armstrong's first parachute leap contributed valuable knowledge to aviation. But it was during his subsequent six-year tour of duty at Wright Field—following his frosty flight from Minneapolis—that he made some of his greatest and most lasting contributions. The one experiment he seems to recall with most satisfaction dealt with explosive decompression. It started in 1934, after the Air Corps let a contract with Lockheed for an experimental pressurized cabin plane, the XC-35.

Armstrong's two-man (including himself) laboratory was assigned the task of deciding the criteria for the manufacturer—how much air was needed to ventilate the cabin per minute, how much humidity, how much heat? There were hard questions to be answered: Suppose the cabin blows up, a window blows out, or the skin of the fuselage ruptures? In short, what happens inside the cabin when it is suddenly de-pressurized? (For these experiments, the Air Corps was awarded the coveted Collier Trophy on September 15, 1938.)

As a research scientist, Armstrong followed a simple rule: "I never asked anybody to do anything I wouldn't do myself. Where the unknown was involved, I felt obligated to be the guinea pig until it was established that an experiment was safe."

So he undertook what he believes to have been the first experiment of its kind ever attempted. He took a cylindrical tank eight feet long and two and a half feet in diameter—big enough for a man to crawl inside and lie down. He bored a series of small holes in the tank and sealed them with corks. Then he climbed into the tank, and sealed himself in.

***Second Marriage: the triumph of hope over experience.* —Samuel Johnson**

The air in the altitude chamber within the laboratory was evacuated to simulate a climb to 30,000 feet, and the air within the little chamber simulated conditions inside a plane cabin at sea level pressure. Once sealed inside, he immediately turned his attention to the series of cork-sealed holes in the chamber. To test the pressure difference, he would start with the smallest hole and kick or push the cork out, then let the pressure equalize. If nothing happened—and nothing did—he would go through the same ritual with the next largest hole. Then he would climax the experiment by pulling a lever and instantly jerking the end of the cylinder from its moorings. By constant experimenting, he was able to simulate conditions from 30,000 feet altitude to sea level.

After some pilots had complained of chest pains from high flying, he went to work on that problem. He determined through experiments with animals that if the breath is held when there is sudden decompression and the lungs are full of air, there is greater danger the lung sacs could rupture. That, he found, is because air in the lungs expands to approximately four times the original volume at 30,000 feet.

To work out other pressurized cabin problems, General Armstrong flew repeatedly in the XC-35. In actual flight, he would check out the cabin temperature, humidity, and the air flow (to determine whether it was enough to keep the oxygen content normal). The objective—a comfortable environment. Many of the modern-day comforts of commercial flying are a direct outgrowth of General Armstrong's pressurized cabin experiments.

It was the General, too, who hammered at the need for oxygen for high-flying fighter pilots. Pilots had been climbing to high altitudes without oxygen. Little was known about the effects of the lack of oxygen at high altitude. So he undertook to find out. He established that once a flier climbs beyond 10,000 feet, he must not be without additional oxygen. (This limit still stands.) This he determined by simulating certain conditions in an altitude chamber—and by tests in actual flight with a TWA engineering test unit with which he made frequent flights in a TWA experimental plane.

On one flight, the plane set out from Dayton and reached an altitude of 32,000 feet over Chicago. Then the plane swung around to head back to Dayton. When the pilot announced that he would let his craft down at 2000 feet a minute until they reached Dayton, Armstrong responded quickly with an idea. He pulled off his oxygen mask and scribbled on a pad his reactions to this extreme lack of oxygen throughout this period of descent. (The pad is still used to illustrate what happens when you take off your oxygen mask and descend at such a rate.) Armstrong recalled that, even after reaching the grounds, he felt "goofy" for about a half hour.

"We lost a lot of people under similar circumstances during the war from the effects of lack of oxygen," Armstrong said.

The General long since looked into the so-called pilot fatigue factor and came to this conclusion:

"It's just like any fatigue. When you're tired, you're tired. It got to be a fad—everybody was talking about pilot fatigue. If a pilot gets

tired, that's fatigue—it's the same as banker's fatigue or actor's fatigue."

Another of the areas of research he pioneered was aeroneurosis, a term he coined because so little work had been done previously on the subject of nervous breakdowns among pilots. While he applied the term to pilots who had breakdowns, he found it fallacious to think in terms of a special kind of neurosis for pilots. It was, he said, a kind of neurosis that was no different from any other neurosis.

"I never touted it as different," he said. "If an airman had a breakdown from a fear of flying it was the same neurosis as a man who had a breakdown from his wife nagging him."

The General determined that there are pilots who have a fear of flying, especially during war—but is it fear of flying, fear of the enemy, or fear of something else? In one test, it was determined that the breakdown was not caused from combat, but from fear of flying over long stretches of water.

"I never call anyone a coward," the General said. "A fellow may have a fear of lightning but fight a communist like a tiger. Some pilots during World War II had breakdowns because of a fear of flying over the North Sea, not from worrying about the enemy. Some feared flying because of claustrophobia."

At Wright-Patterson Field, the General also did considerable research on the so-called g-factor (the effect of gravity) long before it became a household term as a result of the astronaut flights. The French and the U.S. Navy had done some work on the gravity effect created by high speed turns, pilots being jammed in their seats by centrifugal force. But it remained for General Armstrong, in his role as a physician, to fly with pilots and experience for himself what the forces of gravity do to a pilot in a tight turn.

He used himself as a guinea pig in laboratory tests as well as in flight. At Dayton, he built a high-speed merry-go-round type vehicle to simulate tight turns at high speed, a sudden pull-out from a dive, or a high-speed maneuver where the force of gravity would, in effect, increase one's weight from 200 to 1000 pounds. His merry-go-round experiments enabled him to study the effects on circulation, the heart, and vision. He installed in it an accelerometer (to measure the amount of centrifugal force generated). From this instrument he could determine at what point a blackout occurs. He subjected himself to blackouts. These basic principles and the effects he learned from his tests are applied today in aviation and space tests. Thus, from the General's experiences, it was ascertained whether a pilot—even an astronaut—is equipped to retain his skills or suffer lack of vision because of too many g's.

The General's work at Dayton attracted increasing attention. After World War II started, but before the United States became involved, a Canadian delegation visited Armstrong and told him: "We're at war and want to start a research laboratory like yours, but we don't know too much about what the problems are."

He was asked to be a consultant and lay out a program. This he could not do as a military officer because the United States still was a neutral, but a way was found—he was assigned to the University of Toronto

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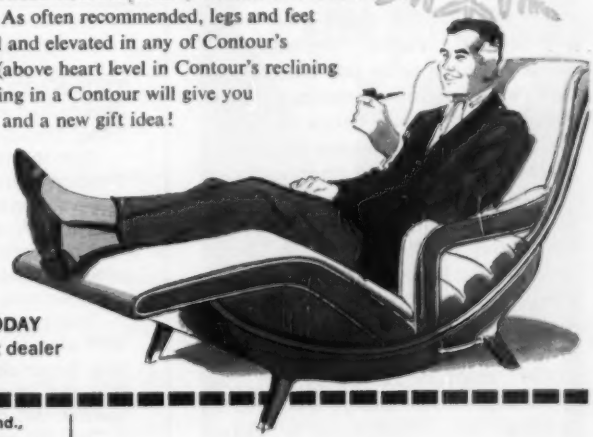

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for a year as a research fellow. Three months of that he spent in London as an Air Corps observer assigned to the U.S. Embassy.

Soon after his return, he was assigned to the Office of the Air Surgeon to head up aviation medical research for the Air Corps. He recognized that there should be a research center at the School of Aviation Medicine at Randolph Field, Texas. The General organized that, then war came and he went to England as Deputy Surgeon, then Surgeon of the U.S. Air Forces in Europe.

After the war, he served a brief tour of duty in Washington, then returned to the School of Aviation Medicine at Randolph—first as assistant commandant and, later, as commandant. It was during his tenure as chief that he established at Randolph the Department of Space Medicine in 1948—at a time, when as he puts it, "space was something for the funny papers."

HE felt then, and feels just as strongly now, that space medicine had a tremendous military potential. As he puts it: "In peacetime you get ready for war. If you don't do certain things and experiment in peacetime, you wouldn't have time to do them in war. The idea is to get a man and his equipment in superior condition to the other fellow's."

That's exactly what he set out to do with Department of Space Medicine. He reasoned that space medicine is but a projection of aviation medicine, with more extreme conditions and new problems.

"While there was no immediate application of the space idea then," the General recalled, "we wanted to make sure we were not caught in a race with engineers saying: 'We've got the hardware; where's the man?' We had to get the money from Congress, convince them that we were not going to use the taxpayer's money for something stupid. We laid it on the table—we should be prepared to have man ready for any eventuality in engineering development. We knew the public might not be prepared to accept it, and the project could be ruined by picturing it as a fantastic thing. We wanted to make sure it would not be treated like comics—and it wasn't."

Two fundamental factors were involved in setting up the Department of Aviation Medicine:

"1. We collected all the available knowledge in astrophysics (the physical state of things in space) to try to define the problem: What's out there? What do we have to contend with if we send a man out there? What are the medical problems? How can they be simulated in a lab by exposing man or animal to these conditions? It was tough because weightlessness was one of new problems. We could get the sensation of weightlessness very briefly by flying a plane in a parabolic pattern (outside loop), but weightlessness would be a longer and bigger problem in space.

"2. The question was partly psychological and partly physical. We knew we would have to seal a man in an airtight compartment and that he would have to take his own environment with him. The question was what do you have to do to create that and make it function? If you go on a long journey, what happens to a man isolated for days or weeks, confined in a strange place in a weightless state and with no companions?

"We began the basic work there," he said with understandable pride.

"Initially," Armstrong said of the Space Medicine Department, "we outlined every problem that exists today. We didn't overlook any problem that we now know about in general. We knew about the cosmic rays, for example. Since then, of course, the Van Allen radiation belt has been discovered, but we still knew then that the cosmic ray problem was something to worry about."

Over the years, General Armstrong drove himself relentlessly. For example, he took no leave during the nine years from 1937 to 1946. Even as determined and resolute a man as he could not withstand the punishing pace. So it was that while flying to Liverpool, England, from an inspection visit to a medical dispensary in Edinburgh. Scotland, in July 1957, he felt a sudden "pain in the chest." He recalls the experience vividly.

"It lasted about five minutes," he said. "I thought it might be indigestion. But early the next morning, I got another pain—and this time there was no doubt about what it was—a coronary."

HE was flown to U.S. Air Force European Headquarters in Wiesbaden and hospitalized. Three months later, he was flown home and, just when things seemed to be going well, he was stricken with a kidney stone attack. There were complications. He had a "stormy time of it" before the infection was cleared up—after two rounds of surgery. Finally, on September 1, 1958, his career ended in reluctant retirement.

"I didn't want to retire," the General said, explaining that he still had four more years to go as a general officer before reaching the 30 years of service that would have brought him retirement (or two years to go before he reached the mandatory retirement ago of 60). "Besides, there were still so many things to do."

Now General Armstrong lives with his wife in a six-room ranch house,

AIRMEN DONATE FOR AN UNUSUAL CAUSE

THE NATION'S SUPPLY of a recently-discovered rare medicine was replenished recently when 2000 Air Force recruits at Lackland Air Force Base, Texas, rolled up their sleeves to donate some 250 gallons of blood.

Not the usual donors, these young men all had one thing in common. Twenty-eight days prior to donating blood they each received a smallpox vaccination. For their blood to be useful in this program, these vaccinations all must have had a positive reaction.

These unusual requirements are called for because the blood is to be processed into vaccinia immune globulin—a lifesaving medication used in those rare cases when a smallpox vaccination causes a critical illness.

The treatment has been available to the public only since 1958, when 1000 airmen donated blood to be processed in the first national distribution program. Complications from smallpox vaccinations are so rare that the demand for the vaccinia immune globulin does not warrant its commercial production.

The 250 gallons of blood being drawn in this program will produce about six pints of the vaccine—about 3000 units, or enough to supply the entire nation for more than a year. The vaccine is processed by commercial laboratories in California and distributed by the American Red Cross as a public service.

perched on a knoll commanding a magnificent, tree-studded view of his 160 acres of rolling Virginia countryside—much of it planted to grass, the rest to timber.

With his Dalmatian, a friendly and constant companion named Pepper, he fools around his domain on his tractor, keeping the place tidy. Around the house, there are roses of every hue, geraniums, irises, azaleas —all tenderly cared for by the General and Mrs. Armstrong. They bought the house two years ago, moving out of a Connecticut Avenue apartment in Washington and going to their rural Shangri-La because, as Mrs. Armstrong put it, "we wanted to get away from the hustle and bustle of the city life."

Here on their Clifton, Virginia farm, (called Sutherland Farms to honor Mrs. Armstrong's maiden name) they live a full and satisfying life, 25 miles away from the big city —Washington, D.C.

Periodically, they enjoy the visits of their two children and four grandchildren.

HERE, too, they live with many happy memories. Their living room is studded with memorabilia—a glass table case containing the innumerable decorations he received during nearly 30 years of distinguished service to his country; an original painting of houseboats on the Rhine; bric-a-brac from Germany. Over the mantel of their modernistic fireplace hangs a sword encased in a scabbard trimmed in hammered gold—the gift of a grateful Saudi Arabian prince, who had received medical care from the General. And there are books—volumes he himself wrote—*Fit to Fly*, his first book; three editions of *Aviation Medicine*, and his latest work (in collaboration with 20 other authors) called *Aerospace Medicine*. And there's a Soviet version of *Aviation Medicine*, a volume which the Russians translated into Russian and published—without the General's permission.

Armstrong, who is an inch under six feet, is as ramrod straight today as when he was a young officer, and a lean 157 pounds. His handsome mustache and his thinning hair are plaited with gray, but his hazel eyes still flash with fire and fervor, particularly when he talks aviation medicine.

Modestly, he recalls that "the few ideas I ever had in aviation medicine research were developed while flying." There were, as he explained, two facets to this:

"First, not being a pilot, I would sit and have nothing to do. In those days, planes were terrifically noisy from vibration and this was not conducive to reading. So I had time to think.

"Secondly, being in the environment of the plane, I wondered what vibration does to people. Does it, for example, interfere with a pilot's vision?" (He found it had some effect, as did America's first astronaut many years later.)

GENERAL Armstrong has jousted with death, fought it unafraid. From this he has developed a philosophy which holds valuable advice for all:

"Life," says the General, "not only has length, it should have breadth. What we should strive for is the greatest area of life. My aim in life is not solely to live to a ripe old age, but to live a full life. If it is really full of worthwhile things (breadth) and I shorten its length as a consequence of doing these worthwhile things, then I have achieved the greatest possible area of life because I still have achieved what most of us seek—the satisfaction of doing the best I could and contributing something to humanity. It's dandy to live a long time. But if life is so narrow, when you are all through, what have you accomplished? If you are selfish and live for yourself and do not contribute to humanity, what have you accomplished?

"A full life is length times breadth —breadth representing interest in humanity, contributions to humanity, and achieving things that give you satisfaction; not just money.

"I use that philosophy when people say: 'You'd better not do that, it might kill you.'

"I have a sense of satisfaction—a tremendous amount of satisfaction —having, I think, contributed to the saving of lives during war and in peacetime; and contributing indirectly to the safety of commercial aviation, and to the safety and comfort of passengers.

"At the start of World War II, the majority of crew members of bombers forced down in the North Sea perished from the effects of the violent impact. Through medical research and studies, we devised a plan so each gunner could sit supported and, when a plane did ditch, the

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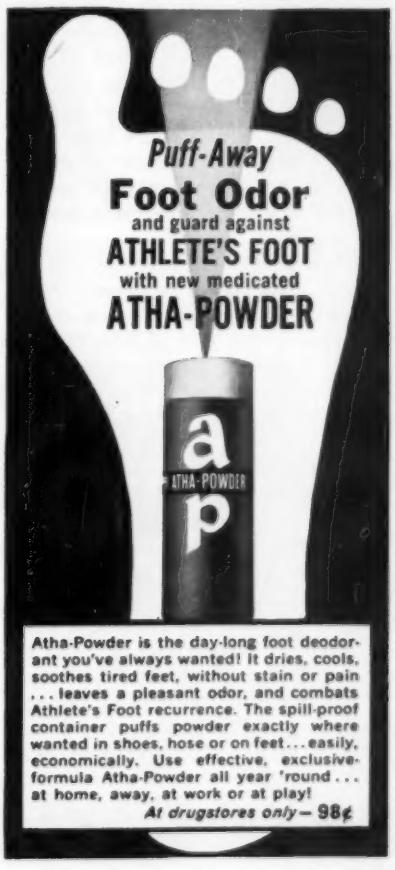
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"In my own soul, I can go to bed at night with a good conscience, with the satisfaction that I did the best I can—even if it means I may not live as long.

"If I don't live as long as I otherwise might have, that's too bad. I don't like to die early. But if I have to choose between one or the other —I choose to do the things that help." END

They're Closing In on the Common Cold

(*Continued from page 49*)

pretty well nailed down the fact that colds had an incubation period of one to three days—that they became noticeable one to three days after exposure. Outbreaks in isolated Arctic towns, for example, followed within three days the arrival of ships. Seventy-two hours after mail and packages for Arctic explorers were dropped from planes, sniffles developed among men marooned on ice shelves.

At the end of the four-day waiting period, Salisbury volunteers were asked to throw back heads to receive some very special nose drops—nasal washings from people sick with colds. After receiving such drops about a third developed colds. Why not all? Presumably, their natural defenses were sufficiently active to ward off infection. Concluded Doctor Andrewes: "We strongly suspect that catching a cold depends on receiving quite a small dose of virus at a time when one's defenses are off guard."

A decade passed and the cold revealed few of its tightly-held secrets —"a barren and frustrating period," according to Andrewes. Yet a few clinical facts did accumulate. The cold itself was a rather innocuous, three-day affair: slight sore throat, possible headache, and always a watery discharge from the nose. When nasal discharges thickened, and became yellowish, this was a sign that bacteria, always present in the nose and throat, had taken over the fertile ground prepared by the virus—the raw, inflamed mucous membranes. The researchers concluded that the virus prepared the way for a full-scale attack by bacteria on throat, nasal, and other tissues.

Along the way, researchers picked up other random bits of fact. It became clear that the cold virus was almost fancifully small— only 1/300 the size of the average bacterium. In the laboratory it could be passed through filter material, the ultramicroscopic pores of which were 50 millimicrons in diameter. And it was remarkably durable. It could be deep frozen, stored for years, and still produce colds.

Other sideline facts turned up. Virtually everyone, including physicians, accepted the idea that chilling predisposes to colds. The Salisbury workers checked this. In clammy February weather they asked volunteers to take hot baths, then don bathing suits, accept a dousing of cold water, and stand in drafts until teeth chattered. Others were asked to wear wet socks all day. Not one of these noble people contracted colds—unless the virus material was also dropped in their noses.

Helpful as all this was in building up the most complete picture of the cold ever brought together, it still didn't get to the heart of the matter. The researchers still hadn't managed to trap the cold in a test tube where it would be possible to really lay hands on the culprit and study its wily ways, its points of weakness. Once this tremendously important step was taken, it would in all likelihood be possible to march directly on to a means of cure, and a means of prevention.

Problem No. 1 was to find a diet pleasing to the virus, something on which it would thrive in a test tube. For more than a decade the Salisbury workers racked their brains trying to find foods for their choosy eaters. Viruses require a diet of *living* tissues. Bacteria on the other hand can subsist on almost anything. It was well known that viruses which cause yellow fever and flu thrive on the growing embryos of chicken eggs. Cold virus was disdainful of such fare. Possibly it would be tempted by human throat tissues removed at surgery, after all, that was its natural habitat. No luck. Lung tissues, nasal tissues? Again no result.

At this discouraging juncture Harvard Hospital got a hot tip from Harvard University. Dr. John F. Enders, later to win a Nobel prize, recorded striking success with growing polio viruses on kidney tissue taken from monkeys.

The Salisbury workers tried the same approach. Unfortunately, the cold virus was only mildly interested in monkey kidneys. Then researchers had another hunch. Possibly the virus would be tempted by the tenderest, fastest growing of all

FEELING RADIOACTIVE? IT MAY BE NUCLEOMITOPHOBIA!

THE NUCLEAR AGE has added a new word to the list of phobias—nucleomitophobia, or fear of the atom—according to an Illinois teacher and writer in psychiatry.

Milton A. Dushkin, M.D., who is also medical director of North Shore Hospital, Winnetka, Illinois, says that public officials are complaining of a rash of calls from frantic citizens who implore, "You've got to help me—I'm radioactive!"

Explanations range from submarines on Lake Michigan shooting mysterious rays inland to women's hair curlers being charged with radioactivity from unidentified flying objects. One woman complained recently to the Atomic Energy Commission that enemy planes were constantly flying overhead beaming deadly radiation on her.

"It's a product of the age," says Doctor Dushkin. "When a person feels overwhelmed by feelings of insecurity and frustrations beyond his control, he must find a scapegoat. Anything popular will do. Nowadays it's fashionable for the emotionally ill to blame their confused state on radioactivity in their environment."

Troubled persons with such delusions should seek competent medical guidance and obtain immediate help, said Doctor Dushkin, for these manifestations could be indicative of serious emotional problems.

kidney cells—those from human embryos. An appeal went out to London hospitals for the tissues resulting from surgical intervention in pregnancy.

The first evidence of a real breakthrough followed. The virus appeared to grow with reasonable enthusiasm on the human cells. But it was still feeble growth. There was no microscopic evidence of damage to kidney cells after attack by the cold virus. This was the way things stood when a magnificent laboratory accident occurred.

As food for growth, the kidney cells had been given a diet of a standard laboratory culture medium —called 199. It was a mixture of vitamins, minerals, amino acids, and bicarbonate of soda. For reasons totally mysterious at the time—the year was 1959—the cold virus suddenly began to grow with enthusiasm never observed before! It even left behind microscopic but clear evidence of having attacked and damaged the kidney cells. Here was the beginning of the first laboratory test for cold virus!

A quick check showed why these things had happened. The 199, by a great stroke of good fortune, wasn't what it was supposed to be. Due to fortunate bungling somewhere along the line, it contained only half the bicarbonate of soda it was supposed to. And this lessened alkalinity was precisely what the cold virus wanted.

Dr. David Tyrrell, a gifted young member of the research team, checked the acidity of his own nose. It tallied almost exactly with that of the faulty 199. Next he put the thermometers up his nostrils to check temperature—91° F. was the reading most of the time.

Researchers now knew exactly what the cold virus liked to eat, and at what temperature greatest growth would be achieved. Mankind's tormentor was in the lab at long last. As things turned out, as much could be accomplished with one test tube in one week as was previously accomplished with 20 human volunteers in 10 days!

Virus was passed tube to tube 20 or more times with no loss of enthusiasm for growth. Juice from test tubes produced colds in human volunteers after six, seven, eight passages. Significance of all this?

The first step in production of a protective vaccine is to grow virus or bacteria in a laboratory— readily and in quantity. The virus is then killed (as in the Salk polio vaccine), or weakened (as in the yellow fever vaccine), and injected into people wanting protection.

Time has not quite arrived for such a step. More must be known about the varieties of virus which cause colds—nine strains have so far been isolated and others are probably on the way. The hope at the moment is that the bulk of colds may be caused by three or four strains of virus—which could be readily included in a single shot of vaccine. With the cold now trapped in the laboratory, such a vaccine becomes a distinct possibility.

While these heady events were transpiring in Salisbury, other work, possibly even more important, was under way in an associated laboratory—the one at Mill Hill, a London suburb, also run by the Medical Research council. Working there, a brilliant young researcher, Dr. Alick Isaacs, was studying a phenomenon which had puzzled researchers for decades. Once a particular virus had attacked cells of a research animal, those cells appeared to ward off attacks from a second and unrelated virus. Why? That was the question Isaacs set out to answer.

The greatest lesson on life is to realize that even fools can be right sometimes.

—Winston Churchill

To get a better idea of what Isaacs was up to, look at the response of human beings to attacks of virus disease. As soon as the invaders are in the body the blood starts building antibodies to combat them. But this is often a slow process. A week or more may be required to build a sufficient force of antibodies to conquer the invading virus army—and in many cases that is too long. A person can be dead, for example, of yellow fever before laggard antibody production gets under way.

Isaacs's work indicated that the body has an immediate front-line defense. On being attacked by a virus, cells throw off a protective protein stuff he has christened "interferon" —because it interferes with virus reproduction. It is not secreted in large amounts—only enough to hold the line until antibodies come along for the mop-up job. (*Turn page*)

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But if considerable amounts of interferon could be produced mightn't this remarkable stuff slay virus invaders with one fell swoop without the need for antibodies? Mightn't it be that long-sought will-o'-the-wisp —a pill to stamp out colds before they got really started? There appears to be an excellent chance that answers to both questions will be yes.

Teams of chemists set to work to isolate this magic stuff thrown off by cells under attack—a fluffy white powder it turned out to be. The tiny amounts available were tested on tiny animals—mice. Infected with deadly sleeping sickness, virus mice made sprightly recoveries when given interferon. The same was true with virus pneumonia and other diseases.

From present evidence, interferon isn't specific against a single virus, but against *all* viruses so far tested —and particularly against the cold virus.

With pieces of the cold puzzle falling rapidly into place, final solution of the problem may be near at hand. Observes Sir Christopher Andrewes: "We feel that we are now firmly on the right road." END

Let's Talk About Food

(*Continued from page 16*)

"Plentiful Foods for the Month" and give recipes for their use. You will find such information on the food pages of your newspaper.

What vitamins should I take to prevent colds? I have heard that vitamin C in particular is very beneficial.

There is no specific vitamin or vitamins that will prevent or cure a cold. There is no evidence to support the contention that vitamin C is more beneficial than any of the other vitamins. It is true that our physical well-being depends a great deal on our nutritional status. A well-balanced diet will insure the intake of all the essential vitamins and minerals for good health, but there are other important factors that influence our susceptibility to certain infections and diseases.

Optimal nutritional health will certainly aid resistance to colds and other infections, but there is no one vitamin or other nutrient that will prevent or cure them. END

You Can Prevent Poison Accidents

(*Continued from page 37*)

their danger: nail polish remover, floor and furniture wax, adhesives, ink, paint, shoe polish, wall cleaner, silverware polish, and some detergents.

In addition to medicines and various household preparations, the U.S. Health Service ranks three other product areas as major sources of poisoning:

—Petroleum products, including gasoline, kerosene, lighter fluid, fuel oil, paint thinners and solvents.

—Pesticides, such as insect sprays, roach and ant killers, poisons for mice and other rodents, weed killers, sprays for indoor and outdoor plants.

—Cosmetics: after-shave lotion; cologne; nail polish; depilatories; hair tonics, oils, lacquers, dyes, and curling solutions.

The list of poison hazards to children could continue for many pages, but the basic causes of danger are two:

1. Hazardous substances abound in every home.
2. Parents are sometimes careless in storing potential poisons because they don't know the substances are dangerous. And most important: There is often no way they *can* know because the label gives no warning.

The problem of adequate precautionary labeling of dangerous household chemicals has concerned public health authorities and physicians for many years. State and federal laws governing labeling of hazardous substances have been sketchy, non-uniform, and generally unsatisfactory.

State regulations are an irregular patchwork of laws that vary from state to state. Some states have no labeling legislation at all.

Laws at the federal level cover labeling of drugs, pesticides, certain caustic and corrosive substances, and narcotics. But until quite recently, there were no broad labeling requirements for household chemicals and poisons except laws applying to transportation of these items.

The American Medical Association has waged a vigorous campaign for adequate labeling legislation. An AMA pharmacologist put it this way: "We believe that legislation of this type is a valuable and effective means of reducing cases of accidental poisoning."

Last year, a bill was introduced in the 86th congress covering labeling of hazardous substances intended or suitable for household use. The AMA warmly supported the measure. In testimony to the Senate committee holding hearings on the bill, F. J. L. Blasingame, M.D., executive vice president of the AMA, stated: "Lack of information about hazardous ingredients in cases of poisonings has enhanced their gravity by complicating or delaying treatment."

The bill was passed by congress and signed into law by President Eisenhower as the Federal Hazardous Substances Labeling Act on July 12, 1960.

The label of any poisonous household product will soon list the following information:

1. The common name of the hazardous substance.
2. A signal word: "Danger" or "Poison" for items that are extremely flammable, corrosive, or highly toxic. "Warning" or "Caution" for all other hazardous products.
3. Directions for handling and storing packages requiring special care.
4. A warning statement such as "Keep out of the reach of children."

Some of the requirements of the labeling law have already gone into effect. Others are still being spelled out by the Food and Drug Administration. Current plans set February 1, 1962 as the deadline for enforcement. Eventually, the new law will enable parents to spot poison hazards immediately and store them out of youngsters' reach.

In the meantime, what can you do to keep your child from being accidentally poisoned? How can you minimize the dangers your home may contain?

One way is to make a room-by-room check, spotting and eliminating poison hazards as you go. The American Academy of Pediatrics has published a breakdown of poisoning incidents according to the part of the house in which they occur. Let's start with the most dangerous room:

The kitchen: 34 percent of poison accidents take place in the kitchen. It is here that bleaches, cleansers, and polishes are usually stored, often in a low cabinet under the kitchen

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sink where they are readily accessible to children in the crawling stage. Transfer these sanitizing agents to a high shelf (preferably locked) out of reach of crawlers; put canned goods or pots and pans in the low cabinets.

Don't store preparations like drain cleaner and soap powder on the same shelf where you keep breakfast cereal, baby foods, and sugar. Children are careless and may grab the wrong package.

Keep household chemicals in their original containers. A thirsty child can mistake a teacup of bleach for water.

Labels of household products should not be mutilated. In event of poisoning, the label may give important information concerning antidotes and ingredients.

The bedroom accounts for 27 percent of poisoning incidents.

Don't sprinkle winter clothes or blankets with mothballs and store them in a low chest or bureau drawer. Youngsters from one to five are attracted by the white color of the mothballs and their odor.

Never keep sleeping pills or other remedies used at bedtime or during the night on low tables or in drawers that pull out easily.

Don't use shelves or drawers in the bedroom closet for storing cleaning powder or fluids or as a second medicine cabinet.

If your child is sick at night, don't give him the medicine in the dark. Turn on the light and read the label.

Cosmetics should be placed out of youngsters' reach and not left on a dressing table.

The bathroom, where the family medicines are usually kept, figures in 15 percent of poisoning accidents.

All medicine should be stored in a locked drug cabinet and returned there after use. Placing drugs on a high shelf is not sufficient protection. Children in the climbing stage can reach amazing heights.

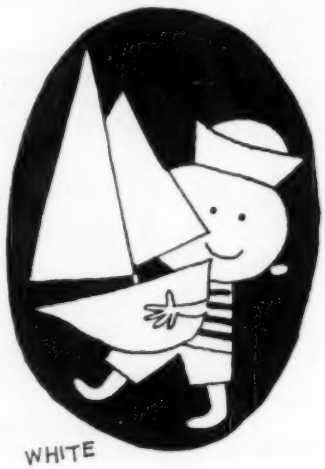
Clean out your medicine chest periodically and destroy drugs you are no longer using. Don't throw them onto the trash pile or into a wastebasket where children can find them.

When giving medicine, read the label carefully and follow directions for use and storage. Never exceed the prescribed dosage.

If your child is sick, don't experiment with old prescriptions or patent medicines. See your doctor.

The living room is the scene of nine percent of accidental poisonings. Hazardous substances are not ordinarily kept in the living room, but this area has a way of accumulating items from all parts of the house—cosmetics, cleaning agents, medicines left in purses or jacket pockets.

Finally, the **garage, yard,** and **basement** produce 16 percent of poisonings. See that insecticides, gasoline, paint, turpentine, antifreeze, rust removers, bleach, and other yard, automobile, and cleaning products are stored in their original containers and out of reach of small children.



It's also a good idea to keep children from playing with empty drug or chemical containers. There may be enough of the original substance left to do harm.

Remember: You can't watch your child all the time. Start his safety education as early as possible and keep dangerous products where he can't get at them.

But what if your best efforts at prevention fail? What if a poisoning accident does occur?

If you believe your child has swallowed a poisonous substance, call your family physician *immediately*. Speed is essential to stop absorption of a poison. If possible, one person should administer first aid while another telephones the physician.

If the child is conscious and able to swallow, give him milk or water. Children under five should drink one to two cups. Children over five need up to one quart.

The next step depends on what the child has swallowed. There is no one first aid technique that applies to all poisoning cases. Use of the wrong measures can produce further injuries.

In case of poisoning by non-corrosive substances such as aspirin and sedatives, induce vomiting to empty the child's stomach. The most effective way is to place your finger or the blunt end of a spoon at the back of his throat.

If the child is in severe pain, has burns around his mouth, or a burning sensation in the mouth and throat, he has probably swallowed a corrosive poison such as ammonia, drain cleaner, rust remover, or household bleach. In these cases, *do not* try to make the child vomit; this brings the corrosive substance into contact with the esophagus a second time. Wrap the child in a blanket to alleviate shock and keep him quiet until the doctor arrives. If he stops breathing, administer artificial respiration.

Neither should the child be made to vomit if he has swallowed a petroleum product—gasoline, kerosene, furniture polish, lighter fluid, cleaning fluid. The vomitus may enter the lungs and cause bronchopneumonia.

When vomiting is indicated, it is important to keep the child from breathing the stomach contents into his air passages. Prevent this by holding him across your knees in the spanking position. His head should be a good eight to 10 inches lower than his hips. Collect the vomitus in a pan so the physician can examine it. This may be important in determining the nature of the poison. Wrap the child in a blanket and reassure him until the physician arrives. Apply artificial respiration if breathing comes to a halt at any point.

Never try to induce vomiting if the victim is in convulsions or unconscious.

Always save the poison container and remaining contents. They will help the physcian identify the poison. END

A poisoning first aid card suitable for posting inside your medicine cabinet is available from the American Medical Association. Single copies, 5 cents; 20 or more copies, 1 cent each. Write: AMA Council on Drugs, 535 N. Dearborn St., Chicago 10, Illinois.

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